



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

February 1, 2012

Via Electronic Mail and Certified Mail
Return Receipt Requested

Denny Clinton
Johns Manville
1871 North Pershing Road
Waukegan, Illinois 60087

RE: Johns Manville Southwestern Site Area, Waukegan, Lake County, Illinois
Administrative Order on Consent, V-W-07-C-870

Dear Mr. Clinton:

Johns Manville and Commonwealth Edison Company submitted a draft revised Engineering Evaluation/Cost Analysis (EE/CA) Revision 4, dated April 4, 2011 (and an addendum dated October 31, 2011) for the Johns Manville Southwestern Site Area in Waukegan, IL. Pursuant to paragraph 16 of the Administrative Order on Consent (VW-07-C-870), the U.S. Environmental Protection Agency hereby modifies the draft EE/CA dated April 4, 2011 in accordance with Attachments 1 and 2 to this letter. Attachment 1 adds an additional Alternative to the EE/CA and Attachment 2 sets forth additional modifications to the EE/CA.

In February 2012, EPA plans to issue a proposed removal action plan and start the public comment period on the proposed removal action plan and the EE/CA (as modified by this letter).

If you have any questions regarding this matter, please contact me at (312) 886-4442 or ohl.matthew@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Matthew J. Ohl".

Matthew J. Ohl
Remedial Project Manager

enclosures

cc via e-mail: William Bow, AECOM
Brent Tracy, Johns Manville
Jan Carlson, EPA-ORC
Erin Rednour, Illinois EPA
Robert Carson, Illinois EPA
Beth Wallace, Illinois Attorney General Office
Om Patel, Weston Solutions, Inc.

Attachment 1

EPA is modifying the EECA to add the following Alternative.

Add as Section 4.5: Alternative 5 - Soil Cover for Sites 3 and Site 4/5 with Environmental Covenants and removal of ACM in utility easements; and Complete Removal of ACM for Site 6 and NE corner of Site 3

1. Site 6: Modified Alternative 1. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:
 - a. Within 90 days of EPA approval of the Work Plan, excavate all soil contaminated with ACM and/or asbestos fibers at Site 6 including, but not limited to the area identified as “Area of Excavation for ACM Affected Soil” and “Paving and Potential Subsurface ACM” in Figure 13 in EE/CA and install and maintain warning signs at every point where a utility line passes under Greenwood Avenue. If during or after the soil excavation at Site 6, visual observation of, samples from the sidewall, or other samples that may be collected indicate the presence of ACM or asbestos fibers under Greenwood Avenue, then install and maintain warning signs every 100 ft. in length along Greenwood Avenue in all areas where ACM or asbestos fibers may remain in place;
 - b. Post Excavation Sampling and Analysis. Conduct post excavation sampling and analysis to confirm that there are no remaining ACM or asbestos fibers in the soil at Site 6 after excavation. At a minimum, Respondents shall: i) collect and analyze soil samples for asbestos using Polarized Light Microscopy (PLM) CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze 10% of the soil samples (from random interval depths) via Transmission Electron Microscopy (TEM) CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to confirm that there are no remaining ACM or asbestos fibers in soil remaining after excavation;
 - c. Make special arrangements necessary for utilities (additional support or removal and replacement) in areas where removal of ACM is required below 3 feet bgs. Examples of utilities in areas where ACM may extend below 3 feet bgs include:
 - i. AT & T: an underground phone cable appears to be located near 03S through 09S where ACM may extend below 3 feet bgs;
 - ii. North Shore Gas Company: high pressure 12-inch gas line (that services ComEd) appears to be close to 04S through 09S as well as 23N, 24N and 26N where ACM may extend below 3 feet bgs;
 - iii. City of Waukegan: six-inch water line runs along the north side of the north shoulder of Greenwood Ave and appears to intersect 23N, 24N, 26N where ACM may extend below 3 feet bgs;

- iv. ComEd: underground electric line runs along 01S, 02S, 03S, 04S where ACM may extend below 3 feet bgs; and
 - v. ComEd: fiber optic line runs along 01S, 02S, 03S, 04S where ACM may extend below 3 feet bgs.
 - d. Backfill excavated areas with clean, non-asbestos-containing material and restore any cover materials to original specifications described in paragraph 4 below;
 - e. Dispose of excavated material in an off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the Johns Manville industrial canal and/or pumping lagoon under the vegetated soil cover; and
 - f. Institutional Controls by Owner of Greenwood Avenue. Greenwood Avenue was not sampled during the EE/CA Study. It is unknown if ACM is located under the Greenwood Avenue Paved Road Surface identified in Figure 13 of the EE/CA. Respondents shall obtain an environmental covenant pursuant to Illinois Environmental Covenant Act, 765 ILCS Ch. 122 substantially in the form of Appendix N.1 and signed by the City of Waukegan. Respondents shall submit the executed environmental covenant to EPA as an attachment to the Work Plan. If this environmental covenant is not provided in accordance with this paragraph, the Removal Action Work Plan shall provide for an investigation and the full removal of any ACM or asbestos fibers that may remain under Greenwood Avenue to prevent its potential release during road or utility maintenance.
2. Site 3: Modified Alternative 2. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:
- a. Within 90 days of approval of the Work Plan, excavate soil in northeast portion of Site 3 (approximately 0.14 acres) identified as the limited excavation area shown in Figure 15 to remove all asbestos-impacted soils (estimated to a depth of 4 feet) and dispose of excavated materials in an off-site landfill, or for excavated materials, excluding sludges, subject to EPA approval, in the industrial canal and pumping lagoon under the vegetated soil cover. ComEd Fiber Optic Cable is located in this area and special provisions may be required to support or remove/relocate this utility to enable complete removal of ACM and asbestos fibers near this utility.
 - b. Excavate soil and sediments contaminated with ACM and/or asbestos fibers to a minimum depth of two feet below each utility line and a minimum width of 25 feet centered on each utility line and clean backfill to provide a clean corridor for utility maintenance on Site 3. Subject to review and approval by EPA, additional excavation and removal may be performed to achieve complete removal of ACM and asbestos fibers, thereby potentially reducing the size of the vegetated soil cover subject to approval by EPA.

- c. Post Excavation Sampling and Analysis. Conduct post excavation sampling and analysis to confirm that there are no remaining ACM or asbestos fibers in soil or sediment within either the northeast portion of Site 3 shown in Figure 15 of the EE/CA or within each utility corridor located at Site 3. At a minimum, Respondents shall: i) collect and analyze soil and sediment samples for asbestos using Polarized Light Microscopy (PLM) CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze 10% of the samples (from random interval depths) via Transmission Electron Microscopy (TEM) CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to determine the presence of any remaining ACM or asbestos fibers after excavation in soil and sediments including adjacent areas;
 - d. Dispose of excavated material in an off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the Johns Manville industrial canal and/or pumping lagoon under the vegetated soil cover;
 - e. Place and maintain the vegetated soil cover as described in paragraph 4 below, in those areas of Site 3 where ACM or asbestos fibers remain in place, including without limitation, the area marked as Vegetated Soil Barrier with Vegetative surface in Figure 15 of the EE/CA unless otherwise approved by EPA. Enroll the Vegetated Soil Barrier with Vegetative Surface area in Figure 15 in the State One Call Program (currently the Joint Utility Locating Information for Excavators (JULIE));
 - f. Institutional Controls by Owner of Site 3: The Owner of Site 3 shall execute an environmental covenant pursuant to the Illinois Environmental Covenants Act, 765 ILCS Ch. 122 substantially in the form of Appendix N.2;
 - g. Reroute, pipe, or remove surface water as needed to support this response action as set forth in the Work Plan approved by EPA;
 - h. Install and maintain security fencing with warning signs every 100 feet and at all gates completely surrounding all areas where ACM remain in place; and
 - i. Long term operation and maintenance (O&M) of the vegetated soil barrier. Respondents shall include in the Work Plan a schedule for submittal of an O&M Plan to EPA for review and approval.
3. Site 4/5: Modified Alternative 2. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:
- a. Utilities: i) North Shore Sanitary District: Submit (as an attachment to the Work Plan) a fully executed environmental covenant that is substantially in the form of Appendix N.3 to EPA and signed by North Shore Sanitary District and Respondents. If Respondents fail to submit the environmental covenant, within 90 days following EPA approval of the Work Plan, they shall excavate soil contaminated with ACM and/or asbestos fibers to a minimum depth of two feet

below the North Shore Sanitary District Sewer line and a minimum width of 25 feet centered on the utility line and backfill to provide a clean corridor for utility maintenance on Site 4/5. Additional excavation and removal may be performed to achieve complete removal of ACM and asbestos fibers, thereby potentially reducing the size of the vegetated soil cover subject to approval by EPA. ii) North Shore Gas Company: Either within 90 days after EPA approval of the Work Plan excavate and removal soil contaminated with ACM and/or asbestos fibers to a minimum depth of two feet below the North Shore Gas Company line and a minimum width of 25 feet centered on the utility line to provide a clean corridor for utility maintenance or disconnect and properly abandon the North Shore Gas Company natural gas transmission line to the south of Site 4/5 at Greenwood Ave and submit an environmental covenant substantially in the form of Appendix N.4 (executed by Respondents and North Shore Gas) as an attachment to the Work Plan.

- b. Post Excavation Sampling and Analysis: If EPA requires soil and/or sediment excavation at Site 4/5, conduct post excavation sampling and analysis to confirm clean utility corridors. At a minimum, Respondents shall: i) collect and analyze soil and sediment samples for asbestos using Polarized Light Microscopy (PLM) CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze 10% of the samples (from random interval depths) via Transmission Electron Microscopy (TEM) CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to determine the presence of any remaining ACM or asbestos fibers after excavation in soil and sediments including adjacent areas;
- c. Backfill any excavation with clean non-asbestos containing material and restore any cover materials to original specifications described in paragraph 4 below;
- d. Dispose of excavated material in an off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the Johns Manville industrial canal and/or pumping lagoon under the vegetated soil cover;
- e. Place and maintain the vegetated soil cover as described in paragraph 4 below over areas where ACM or asbestos fibers may remain in place, including without limitation the area marked for a vegetated soil barrier in Figure 19 of the EE/CA. Also fill wet areas to allow for cap construction above seasonal high water level to prevent potential erosion in the long term. Enroll the area marked for a vegetated soil barrier in Figure 19 of the EE/CA in the State One Call Program (currently the JULIE);
- f. A sediment and erosion control plan;
- g. Wetlands restoration to 100% of the original on-site area of 4.09 acres and monitoring following vegetated soil cover construction;
- h. Institutional Controls by Owner of Site 4/5. The Owner of Site 4/5 must execute an environmental covenant in substantially the form of Appendix N.5.

- i. Install and maintain security fencing with warning signs every 100 feet and at all gates completely surrounding all areas where asbestos containing materials remain in place; and
 - j. Long term O&M of the vegetated soil barrier. Respondents shall include in the Work Plan a schedule for submittal of an O&M Plan to EPA for review and approval.
4. Vegetated Soil Cover for Sites 3 and 4/5
Vegetated Soil Cover means at a minimum, six inches of non-asbestos containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: a geotextile layer overlain by 15 inches of native clayey soil, overlain by three inches of topsoil and a vegetation cover. Clean fill stockpiled at the Johns-Manville Site may be used if it meets the requirements for the vegetated soil cover including that it does not contain detectable levels of asbestos fibers using PLM CARB level A (analytical sensitivity 0.25% asbestos). Non-asbestos containing sandy soils are expected to exist at the sites that, if located or placed above surrounding grade, may provide the benefits (e.g., drainage and mitigation of particle migration) of the six-inch layer of sand required at the base of the vegetated soil cover described in the 1987 Record of Decision (ROD) for the Johns Manville Site. In any areas where at least six inches of non-asbestos containing sand does not exist above surrounding grade, at least six inches of such sand shall be provided prior to placing the geotextile layer of the vegetated soil cover. Additional grading material or cover material may be required as part of the vegetation cover to ensure proper drainage and to support native plant species including heavy hydroseeding with little bluestem (*Schizachyrium scoparium*) and if requested by EPA a secondary seeding to provide root growth between the bunch grass for erosion control, thereby potentially reducing maintenance requirements after the excavation work has been completed. The seed must be of midwest genotype preferably from sources within several hundred miles of the site.
5. The estimated cost for Alternative 5 is \$5,899,000. The construction cost for Alternative 5 is estimated to be \$5,533,000. The long term operation and maintenance cost for Alternative 5 is estimated to be \$366,000. These costs are based on the following costs for each of the sites:
 - Site 6 – construction \$1,869,000, annual O&M \$0
 - Site 4/5 - construction \$1,468,000, annual O&M \$15,000, and net present worth of O&M \$185,000; and
 - Site 3 - construction \$2,196,000, annual O&M \$15,000, and net present worth of O&M \$181,000

Attachment 2 – Modifications to the Engineering Evaluation/Cost Analysis dated April 4, 2011

EPA is modifying the EE/CA as follows:

1.0 Executive Summary and 2. Site Description and Past Characterization

These introductory sections are replaced with the following text:

The Site includes properties owned by the Commonwealth Edison Company (ComEd) and properties adjacent to the JM facility in Waukegan, Lake County, Illinois, which are identified as Sites 3, 4/5, and 6. JM and ComEd entered into an Administrative Order on Consent (VW-07-C-870) dated June 11, 2007, to conduct an EE/CA Study for the Southwestern Site Area in response to the discovery of asbestos-contaminated soils and waste that had been discovered in the areas identified as Sites 3, 4, 5 and 6 adjacent to the JM former manufacturing facility.

Site 3 is owned by ComEd and is located south of the Greenwood Avenue right-of-way near the southern property line of the former JM manufacturing facility. Pursuant to a license agreement with ComEd, JM used Site 3 as a parking lot for JM employees and invitees from the 1950s through approximately 1970. Asbestos-containing pipes were split in half lengthwise and used for curb bumpers on Site 3. Site 3 also contains miscellaneous fill material, some of which contains asbestos. The parking lot was taken out of service in approximately 1970 when the Amstutz Expressway was constructed.

In December 1998, Respondent JM discovered ACM at the surface on Site 3. JM removed surficial ACM and conducted sampling of the area which showed ACM at depths of at least three feet at Site 3. Surface and subsurface characterization of Site 3 was completed in 1998 by ELM Consulting LLC (ELM) and results were reported in a report dated December 1999. ELM sampling results are summarized in Table 2 and in Section 2.2.2 of the EE/CA. The northwest and northeast portions of Site 3 were not sampled during the ELM grid sampling event due to the presence of standing water. The ELM study identified these localized areas as wetlands. During LFR's EE/CA sampling these areas also exhibited areas of standing water, thereby precluding sample collection. The EE/CA sampling confirmed ACM in S3-50B and S3-40B (See Figure 8 of the EE/CA). The EE/CA confirmed ACM to depths of at least three feet at Site 3. The investigation results are discussed in Section 2.2.2 of the EE/CA.

Site 4/5 is on and adjacent to the western boundary of JM's former manufacturing facility in Waukegan, Illinois. Site 4/5 is located within the right-of-way owned by ComEd extending northward from the north end of the elevated roadway approach to Greenwood Avenue. Site 4/5 consists of an upland area and a low lying swale area between the upland area and a railroad right-of-way to the west. On October 26, 2000, JM personnel observed ACM at Site 4 during

excavation activities related to the decommissioning of a nearby natural gas line. Pieces of ACM in the form of roofing materials, transite sheeting and brake shoe materials were noted in the excavated soil. ACM exposed at the surface was picked up and disposed off-site at the Onyx Landfill located in Zion, Illinois but subsurface ACM remains. Site 4 was investigated concurrently with Site 5. Site 5 is located within a swale area of the ComEd right-of-way, which is on and adjacent to the western boundary of the former JM manufacturing facility in Waukegan, Illinois from Site 4 on the south to a point west of the north end of the pumping lagoon. Asbestos was discovered in the swale on Site 5 during investigations for a study prepared for the Waukegan Park District entitled "Waukegan Park District: An Evaluation of Offsite Asbestos and Air Pollutants and Their Potential Effect on Visitors to the Proposed Sports Complex in Waukegan, Illinois" dated March 7, 2002 ("Waukegan Park District Study"). According to Waukegan Park District Study, a composite sample from the swale exhibited elevated asbestos concentrations. Both Sites 4 and 5 were located in the area adjacent to JM's western property line, thus the two were combined for convenience.

The EE/CA study included visual ACM inspection, and PLM and TEM analyses of soil samples collected from test pits within the expanded Site 4/5 investigation area, which indicated the presence of a variable thickness of ACM in soil above 0.25% (Figure 9A). Visible ACM debris within the test pits included, but is not limited to, Transite™ pipe, roofing materials, fibrous process waste, wall board, brake liners, and flex-board. The investigation results for Site 4/5 are discussed in Section 2.3.2 of the EE/CA. The EE/CA investigation showed a variable thickness of ACM in soil above 0.25% in all but 4 of the 59 sampling rows. The EE/CA investigation showed occurrences of ACM greater than 4 feet below ground surface (bgs) are encountered along the North Shore Sanitary District sewer main (See Figure 9A of the EE/CA).

As part of the EE/CA, wetlands delineation for Site 4/5 was completed by Hey and Associates in a report dated January 7, 2009 (EE/CA Appendix K). The field survey, conducted in October 7, 2008, determined that there were 4.09 acres of wetlands on Site 4/5.

Site 6 is adjacent to the JM former manufacturing facility on the shoulders of Greenwood Avenue and within the right-of-way of Greenwood Avenue in Waukegan, Illinois extending from the east end of Greenwood Avenue's elevated approach to Pershing Road on the west to the boundary of Site 2 on the east. Samples of this area were taken as part of the Waukegan Park District Study. Both shallow and deeper sample material from the Greenwood Avenue shoulder showed elevated levels of concentrations of primarily chrysotile asbestos. Visible ACM debris included, but was not limited to, Transite™ pipe, roofing materials, fibrous process waste, wall board, brake liners, and flex-board. The investigation results are discussed in Section 2.4.2 of the EE/CA. The EE/CA investigation found that ACM either visible or detected by laboratory analysis was present in soil at 28 of 88 of the sample locations in Site 6. See Table 4 and Figure 10 of the EE/CA. The EE/CA investigations found ACM down to 3 feet bgs at sample locations

02S through 09S and at certain sampling locations between 18N and 26N. ACM may extend at a depth below 3 feet bgs in these areas.

2.4.2 Site Soil Sampling Results

First sentence of first paragraph is modified as follows: **“soil borings within Site 6 indicate the presence of ACM in soil of limited extent above the action level of 0.25%.”**

2nd 3rd and 4th sentences of third paragraph are changed to the following: No ACM was present **above 0.25%** in soil along the southern shoulder...east of 08S. Along the northern shoulder of Greenwood Avenue, ACM was present **above 0.25%** most frequently from.... A limited amount of ACM was present **above 0.25%** in test pits...

2.5 Streamlined Risk Evaluation

This section is modified as follows:

The streamlined risk evaluation is a general requirement of the EE/CA described in EPA Guidance document EPA 540-R-93-057. The results of the investigation indicate that ACM is present within the soil column at each Site, at depths ranging from the surface to lower than 5 feet in depth at some locations.

In frost-susceptible areas like Waukegan, stones and other large particles, such as broken scraps of asbestos, tend to move differentially upward through the soil with each freeze/thaw cycle. Thus, asbestos-containing wastes that are covered with soil can, over time, reach the soil surface and become readily releasable to the air. It is for this reason that a cover thickness that exceeds NESHAP requirements was chosen for the Johns Manville Site in the 1987 ROD. The six-inch cover with vegetation required by NESHAP does not provide an adequate level of long-term protection to public health and the environment. The cover thickness was designed to ensure that, on the average, the frost layer does not enter the waste materials more than 10 times per century. This would effectively minimize the freeze/thaw effects because no particle movement occurs when the frost layer does not enter the waste materials. In addition, calculations made by Manville's consultant indicate that the recommended 24-inch, two layer cover would prevent asbestos from reaching the surface and becoming releasable to the air for well in excess of 100 years, providing further support for the chosen cover thickness with two-layer design.

2.5.1 Exposure Route

The exposure route applicable to the Sites is the inhalation of fugitive airborne asbestos fiber, should fibers become airborne.

2.5.2 Site Use

The current and anticipated future use of each Site is as follows:

- Site 3 is owned by ComEd and contains high voltage transmission lines. It consists of vegetated (uncut) open land that is unoccupied. There are no plans to change the current Site use.

Site 3 is currently being used by the following utilities:

- *North Shore Gas Company: an underground high pressure gas line;**
- *City of Waukegan: 6-inch water line;**
- *ComEd: underground electric line;**
- *ComEd: fiber optic line;**
- *Nicor: gas transmission line; and**
- *AT&T: telephone cables.**

- Site 4/5 is a ComEd right of way. It consists of vegetated (uncut) open land that is unoccupied. There are no plans to change the current Site use.

Site 4/5 is currently being used by the following utilities:

- *North Shore Sanitary District: sanitary sewer line; and**
- *North Shore Gas Company: gas transmission line.**

- Site 6 is owned by the City of Waukegan and serves as the shoulder to Greenwood Avenue. The city has recently added (within the past 4 years) approximately 2 to 3 feet of asphalt grindings to the original road elevation. The city has previously indicated that additional improvements to the roadway or adjacent shoulder areas may be completed in the future (*e.g.*, stormwater lines or surface paving); however, there are no current known plans to change the overall Site use as the Greenwood Avenue shoulder or right-of-way.

The following utility lines are located on Site 6:

- *AT&T: an underground phone cable;**
- *North Shore Gas Company: an underground high pressure gas line;**
- *City of Waukegan: 6-inch water line;**
- *ComEd: underground electric line; and**
- *ComEd: fiber optic line.**

2.5.3 Potential Receptors

Potential receptors at each of the Sites are as follows:

- Potential receptor populations at Site 3 are utility workers from either (i) ComEd personnel servicing their overhead lines that cross the Site, (ii) workers from other utilities who maintain easements for their lines (see above), and (iii) trespassers.

- Potential receptor populations at Site 4/5 are utility workers from either (i) ComEd personnel servicing their overhead lines that cross the Site; (ii) workers from other utilities who maintain easements for their lines (i.e., North Shore Sanitary District); and (iii) trespassers.
- Potential receptor populations at Site 6 are utility workers and the general public, as users of the roadway.
- **Potential receptors if asbestos comes to the surface (freeze/thaw) at Sites 3, 4/5 and 6 and becomes airborne include residents to the west of these Sites, workers on or around each of Sites 3, 4/5, and 6, users of Greenwood Ave, and wildlife in Illinois Beach State Park.**

Potential Health Risks

Exposure to asbestos carries potential health risks. If the soil barrier is penetrated, exposure to asbestos-affected soil/debris may occur and therefore, any disturbance of the underlying asbestos-affected soil must be properly managed to avoid health risks. Dust from this ACM can be hazardous when inhaled. Exposure to asbestos dust can cause irritation of eyes and mucous membranes, upper respiratory irritation, delayed and often serious breathing problems, and stomach upsets. Asbestos can produce a lung fibrosis called asbestosis. Asbestos is also a cancer-producing agent (lung cancer and mesothelioma, among others). Heavy exposure to dust containing asbestos can also cause skin irritation. Epidemiological studies have shown that lung cancer appears to be related to the degree of exposure, the type of asbestos and whether or not the individuals smoke cigarettes. It is significant that cigarette smoking greatly increases the risk of lung cancer in those who are exposed to asbestos.

2.5.4 Risk Evaluation

First paragraph: Modify the third and fourth sentences as follows:

~~Thus given that the investigation involved direct disturbance of ACM in hundreds of test pits using a backhoe, it is unlikely that future excavation activities (e.g., utility maintenance) in which ACM may be encountered or events of trespass would result in exceeding the OSHA standards. However,~~ Air monitoring will be required for any disturbance of these areas.

Second paragraph: Delete and replace with the following:

The shoulders of Greenwood Avenue in Site 6 are not vegetated and are subject to physical disturbance from the general public as well as potential damage from vehicles, snow plows, salt trucks etc. Sites 3, 4/5 and 6 also contain utilities and these areas would be disturbed during maintenance or repair activities. Such damage or disturbance may result in the release of asbestos-containing materials and asbestos fibers. In addition, in frost-susceptible areas like Waukegan, stones and other large particles, such as broken scraps of asbestos, tend to move differentially upward through the soil with each freeze/thaw cycle. Thus, asbestos-containing wastes that are covered with soil can, over

time, reach the soil surface and become readily releasable to the air. It is for this reason that a cover thickness that exceeds NESHAP requirements was chosen for the Johns Manville Site in the 1987 ROD. The six-inch cover with vegetation required by NESHAP does not provide an adequate level of long-term protection to public health and the environment. The cover thickness was designed to ensure that, on the average, the frost layer does not enter the waste materials more than 10 times per century. This would effectively minimize the freeze/thaw effects because no particle movement occurs when the frost layer does not enter the waste materials. In addition, calculations made by Manville's consultant indicate that the recommended 24-inch, two layer cover would prevent asbestos from reaching the surface and becoming releasable to the air for well in excess of 100 years, providing further support for the chosen cover thickness with two-layer design.

Adverse health risks are reasonably anticipated in the event that exposure occurs. Dust from this ACM can be hazardous when inhaled. Exposure to asbestos dust can cause irritation of eyes and mucous membranes, upper respiratory irritation, delayed and often serious breathing problems, and stomach upsets. Asbestos can produce a lung fibrosis called asbestosis. Asbestos is also a cancer-producing agent (lung cancer and mesothelioma, among others). Heavy exposure to dust containing asbestos can also cause skin irritation. Epidemiological studies have shown that lung cancer appears to be related to the degree of exposure, the type of asbestos and whether or not the individuals smoke cigarettes. It is significant that cigarette smoking greatly increases the risk of lung cancer in those who are exposed to asbestos. Site 3 contains asbestos at less than 2 feet.

3. Identification of Removal Action Objectives and Scope

3.2. Applicable or Relevant and Appropriate Requirements (ARARs)

3.2.1 Air Quality Monitoring

This section is modified to state the following:

Air monitoring results collected during the removal action will be compared with 10% of the OSHA time-weighted average (TWA) personal exposure limit (0.1 fibers per cubic centimeter) for asbestos (29 C.F.R. 1910.1001).

3.2.2 Asbestos Disposal Areas ARARs

This Section is deleted and replaced with the following:

1. Asbestos NESHAP (40 C.F.R. § 61.151)

Federal standards for inactive asbestos waste disposal sites are described in 40 C.F.R. § 61.151.

These rules apply to the Southwestern Site Area deposits of asbestos-containing waste materials. The Asbestos NESHAP requires no visible emissions or a cover over the asbestos-containing waste materials. 40 C.F.R. § 61.151(4)(d) requires approval by the Administrator if there will be disturbance of the asbestos-containing waste material and off-site disposal for any excavated asbestos-containing waste material. For asbestos-containing waste material disposal areas, 40 C.F.R. § 61.151(4)(e) requires implementation of title documents that run with the land and notify prospective purchasers in perpetuity.

2. Illinois Administrative Code (35 IAC 807.305)

These rules apply to all areas of the Southwestern Area Site where deposits of asbestos-containing waste materials or asbestos fibers would remain in place. 35 IAC 807.305 requires a two-foot cap with vegetation.

3. Executive Order 13112 seeks to prevent the introduction of invasive species. The soil cover for Sites 3 and 4/5 shall be vegetated to mitigate erosion using native plant species and this vegetation shall be maintained consistent with the intent of Executive Order 13112.

3.2.3 Water Quality:

Clean Water Act Section 404 and 40 C.F.R. § 231 applies to remedy construction activities on the Site 4/5 wetland area. While CERCLA remedies are exempt from permit requirements, the substantive requirements of these rules apply to the wetlands area of Site 4/5.

Sediment and erosion controls for stormwater discharges from Southwestern Site Area remedy construction activities will be included as site-specific ARAR or TBC guidance. For construction activities impacting an area greater than 1 acre within Site 4/5, a sediment and erosion control plan will either be incorporated into the Remedial Work Plan, or prepared as a separate document meeting the requirements of Title 35 IAC Subtitle C, Chapter 1 and Lake County Illinois guidance. **The action shall also be conducted in compliance with Executive Orders 11988/11990 - Protection of Floodplains/Wetlands and the Fish & Wildlife Coordination Act, 16 USC 661 *et sequens*, requiring that the effects of water-related projects on fish and wildlife resources must be considered and action must be taken to prevent, mitigate, or compensate for project-related damages or losses to fish and wildlife resources.**

The following section is added to the EE/CA:

3.2.4 To Be Considered:

765 ILCS Ch. 122 Illinois Uniform Environmental Covenants Act authorizes implementation of environmental covenants that arise under an environmental response

project.

4. Identification of Removal Action Alternatives

The Alternative set forth in Attachment 1 is added to this section as Section 4.5.

4.1 Complete Removal (Alternative 1)

The sixth and seventh sentences are deleted as follows.

~~If, during implementation, it is not possible to completely remove all asbestos impacts due to utilities or other subsurface obstructions, complete removal would not be the implemented alternative. In that case, a soil cap and the associated requirements (as described in Alternatives 2, 3, and/or 4, below would be implemented following U.S. EPA approval.~~

4.1.2 Site 4/5

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction costs for this alternative range from \$5,200,000 to \$7,356,000.

4.1.3 Site 6

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction costs for this alternative range from \$865,000 to \$2,093,000.

4.2.2 Site 4/5

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction costs for this alternative range from \$865,000 to \$829,000 without the geotextile layer.

4.2.3 Site 6

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction costs for this alternative range from \$337,000 to \$325,000 without the geotextile layer.

4.3.1 Site 3

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction costs for this alternative and the initial surface pickup, and debris disposal (if necessary) is estimated to be \$383,000 to \$376,000 without the geotextile layer.

4.3.2 Site 4/5

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction cost for this alternative is estimated to be \$1,222,000, or \$1,186,000 without the geotextile layer.

4.3.3 Site 6

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction cost for this alternative is estimated to be \$425,000 to \$497,000, or \$422,000 to \$495,000 without the geotextile layer.

4.4 Alternate Soil Barrier Remedy (Alternative 4; Site 3 only)

The last paragraph presenting costs has been modified to be consistent with Appendix M. The construction cost for Alternative 4 is estimated to be \$2,253,000, or \$2,182,000 without the geotextile layer (see Table 5). Operation and maintenance cost for a 30-year period is estimated to be \$480,000.

4.5-7 Treatment

Make this Section 4.7. The second sentence of the second paragraph is modified as follows. S/S treatment in the area of shallow underground utilities cannot be performed without extensive utility relocation ~~which is not considered feasible~~.

4.6 Institutional Controls

4.6.2 Institutional Controls by Owners

The Respondents would need to reach an agreement with the City of Waukegan to implement the necessary controls.

4.6.3 Institutional Controls by Utilities and Other Easement Holders

The following sentence is added to this section: **It is unknown whether the utilities would be willing to agree to the Environmental Covenants (and attendant subrogation of their easements) which requires handling and disposal of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan.**

Add Section 4.5 for Alternative 5: Soil Cover for Sites 3 and Site 4/5 with Environmental Covenants and removal of ACM in utility easements; and Complete Removal of ACM for Site 6 and NE corner of Site 3 (Attachment 1)

5. Analysis of Removal Action Alternatives

5.1.2 Implementability

The first sentence is modified as follows.

Although Alternative 1 is administratively feasible, the presence of utilities at the Sites ~~complete~~ makes removal **more complicated** ~~either cost prohibitive, technically impracticable, or both.~~ Subsurface utilities and high water table conditions, particularly for Sites 3 and 4/5, **provide challenges for the removal.** ~~limit the extent and depth to which complete ACM removal may be verifiably performed.~~

5.1.2.1 Technical feasibility

The following sentences are stricken from the first paragraph.

~~For several underground utilities, it is neither feasible to excavate around these active utilities in a safe manner (e.g., 12-inch diameter high pressure natural gas lines) nor feasible to relocate them for the purposes of remediation (e.g., the large diameter sanitary sewer force main at Site 4/5). Complete excavation and removal of ACM-affected soil for Site 3 is not considered feasible, given the presence of numerous subsurface utilities at a depth of 3 feet bgs.~~

The last sentence of the first paragraph has been modified to be consistent with the costs presented in Appendix M. The estimated cost for shallow utility relocation or management for Site 3 Alternative 1 ranges from \$245,000 to \$290,000 as indicated in Appendix M.

The last sentence of the third paragraph has been modified to be consistent with the costs presented in Appendix M. The estimated cost for shallow utility relocation or management for Alternative 1 ranges from \$207,000 to \$634,000 as indicated in Appendix M.

5.1.3 Cost

The last sentence has been modified to be consistent with the costs presented in Appendix M. The total net present value cost for Alternative 1 is \$7,822,000 to \$11,731,000.

5.1.3.1 Direct and indirect capital costs

The first sentence has been modified to be consistent with the costs presented in Appendix M. The estimated direct and indirect capital cost for Alternative 1 is \$7,822,000 to \$11,731,000.

5.2 Soil Barrier (Alternative 2)

Change second paragraph to read as follows: Alternative 2 is an effective alternative for reducing or eliminating exposure to asbestos at the Southwestern Site Area, **except for Site 6 and the utility easement portions of Sites 3 and 4/5.** ... This approach is also consistent with the long-term ACM management strategy for the CERCLA landfill areas of the adjacent JM

property; however, the CERCLA landfill area is fenced to restrict access and does not have utility easements.

5.2.1 Effectiveness

Change first sentence as follows: **Except for Site 6 and the utility easement portions of Sites 3 and 4/5**, Alternative 2 would be effective for achieving long-term ACM exposure objectives at the Southwestern Site Area.

5.2.1.1 Overall protection of public health and the environment

Delete this section and Replace with the following:

Except for Site 6 and the utility easement portions of the Site, Alternative 2 would be protective of human health and the environment. In order to be protective of public health, complete removal of ACM is required at Site 6 because the ACM is located in the public right-of-way for Greenwood Avenue. There is no reliable way to prevent access and maintain a two foot cover with vegetation over the ACM at Site 6. Any vegetated cover and fencing placed at the edge of Greenwood Avenue would be subject to potential damage from vehicles, snow plows, salt trucks, etc. Sites 3, 4/5 and 6 also contain utilities and any cover would be disturbed during maintenance or repair activities. Such damage or disturbance may result in the release of ACM and asbestos fibers. Dust from the disturbed ACM can be hazardous when inhaled. See Section 2 for health effects from exposure to asbestos.

5.2.1.2 Compliance with ARARs

This section is modified as follows:

Alternative 2 would not be in compliance with ARARs at Site 6 and may not be in compliance at Site areas subject to utility easements. For Site 6, the public has unlimited access to the shoulders of Greenwood Ave and, and thus this asbestos disposal area is not “inactive”. Furthermore, the public’s unlimited access and unrestricted use of the shoulders of Greenwood Avenue would not be in compliance with the use restrictions of 35 IAC 807 and 40 C.F.R. § 61.151(4), which require an undisturbed cover on an inactive asbestos disposal area.

It is unknown if Alternative 2 will comply with ARARs for the areas of Sites 3, 4/5 and 6 that are subject to utility easements and indentures. Areas subject to utility easements will be disturbed during maintenance and other purposes and at such times the asbestos disposal area would not be considered “inactive.” It is unknown if the utilities will agree to the provisions in the Environmental Covenant, which requires handling and disposal of all excavated soils that contain ACM off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan. It is unknown if Alternative 2 will comply with 40 C.F.R. § 61.151(4)(d) in the utility easement areas, because 40 C.F.R. § 61.151(4)(d) requires approval by the Administrator if there will be

disturbance of the asbestos-containing waste material and off-site disposal for any excavated asbestos-containing waste material.

5.2.3 Cost

The first sentence has been modified to be consistent with the costs presented in Appendix M. The estimated construction costs for Alternative 2 is \$2,303,000 to \$2,219,000.

The second sentence in this section is modified as follows: “The soil barrier construction for Alternative 2 is considered the lowest cost alternative for a ~~highly~~ **potentially** effective remedy.”

5.2.3.1 Direct and indirect capital costs

The first sentence has been modified to be consistent with the costs presented in Appendix M. The estimated direct and indirect capital cost for Alternative 2 is \$1,823,000 to \$1,739,000.

5.3 Hybrid Remedy

Second paragraph: **For Sites 4/5 and 6,(except for the utility easements), Alternative 3 is an effective alternative to reduce or eliminate exposure to asbestos. ~~at those sites.Residual risk of ACM remaining at the Sites would be acceptable, provided that the barrier is properly maintained and institutional controls are put in place to manage future intrusive activities.~~** This approach is also consistent with the long-term ACM management strategy for the NPL landfill areas of the adjacent JM property; **however, the NPL landfill area is fenced to restrict access and does not have the cover disturbance issues that arise with maintenance activities associated with utility easements. The NPL landfill is anticipated to remain undisturbed and “inactive” without disturbance of the vegetated soil cover.**

5.3.1.2 Compliance with ARARs

As Site 3 is considered an inactive disposal site, the “pickup only” alternative **would** ~~may~~ not be compliant with cover requirements of 40 C.F.R. § 61.151 and 35 IAC 807.

5.3.3 Cost

The first sentence has been modified to be consistent with the costs presented in Appendix M. Estimated net present value cost for Alternative 3 is \$2,480,000 to \$2,552,000 or \$2,434,000 to \$2,507,000 without the geotextile.

5.1.3.1 Direct and indirect capital costs

The first sentence has been modified to be consistent with the costs presented in Appendix M.

The estimated direct and indirect capital cost for Alternative 3 is \$2,030,000 to \$2,102,000, or \$1,984,000 to \$2,057,000 without the geotextile.

5.4 Alternate Soil Barrier (Alternative 4; Site 3 Only)

The areas not covered by the two-foot vegetated cover would not meet the soil cover ARARs of 40 C.F.R. § 61.151 and 35 IAC 807.

The second sentence of the second paragraph has been modified to be consistent with the costs presented in Appendix M. Estimated net present value cost for Alternative 4 is \$2,253,000 or \$2,182,000 without the geotextile.

The following Section 5.5 regarding analysis of the effectiveness, implementability, and cost of Alternative 5 is added to Chapter 5.

5.5 Alternative 5: Soil Cover for Sites 3 and Site 4/5 with Environmental Covenants and removal of ACM in utility easements; and Complete Removal of ACM for Site 6 and NE corner of Site 3

5.5.1 Effectiveness

Alternative 5 would be effective for achieving long-term ACM exposure objectives at the Southwestern Site Area.

5.5.1.1 Overall protection of public health and the environment

Alternative 5 would be protective of human health and the environment. In order to be protective of public health, complete removal is required at Site 6 because the ACM is located in the public right-of-way for Greenwood Avenue. There is no reliable way to prevent access and maintain a two-foot cover with vegetation over the ACM at Site 6. Any vegetated cover and fencing placed at the edge of Greenwood Avenue would be subject to potential damage from vehicles, snow plows, salt trucks, etc. Sites 3, 4/5 and 6 also contain utilities and any cover would be disturbed during maintenance or repair activities. Such damage or disturbance may result in the release of ACM and asbestos fibers. Alternative 5 requires complete removal of ACM at Site 6. If the utilities are unwilling to sign an environmental covenant, Alternative 5 requires complete removal of ACM in utility right of ways.

5.5.1.2 Compliance with ARARs

Alternative 5 would be in compliance with ARARs. Under Alternative 5, a cover equivalent to a two-foot cover with vegetation would be in place at Sites 3 and 4/5 in

compliance with of 35 IAC 807 and 40 C.F.R. § 61.151. Alternative 5's environmental covenants on Sites 3 and 4/5 would prohibit disturbance of covers unless the procedures under the Asbestos Soil Management and Asbestos Health and Safety Plan are followed including off-site disposal of excavated ACM in accordance with 40 C.F.R. § 61.151(4). ComEd has indicated that it is willing to implement Environmental Covenants for areas that it owns. It is unknown if the utilities are willing to execute the environmental covenants where they own easements or other property rights. Thus it is unknown if the ARAR can be met for the utility easement areas.

Executive Order 13112: The soil covers for Sites 3 and 4/5 would be vegetated to mitigate erosion using native plant species consistent with the intent of Executive Order 13112.

Clean Water Act Section 404 and 40 C.F.R. § 231 applies to remedy construction activities on the Site 4/5 wetland area. While CERCLA remedies are exempt from permit requirements, the substantive requirements of these rules apply to the wetlands area of Site 4/5. Sediment and erosion controls for stormwater discharges from Southwestern Site Area remedy construction activities will be included as site-specific ARAR or TBC guidance. For construction activities impacting an area greater than 1 acre within Site 4/5, a sediment and erosion control plan will either be incorporated into the Remedial Work Plan, or prepared as a separate document meeting the requirements of Title 35 IAC Subtitle C, Chapter 1 and Lake County Illinois guidance. The action shall also be conducted in compliance with Executive Orders 11988/11990 - Protection of Floodplains/Wetlands and the Fish & Wildlife Coordination Act, 16 USC 661 *et seq.*, requiring that the effects of water-related projects on fish and wildlife resources must be considered and action must be taken to prevent, mitigate, or compensate for project-related damages or losses to fish and wildlife resources.

5.5.1.3 Long-term effectiveness and permanence

Alternative 5 would result in negligible risk of asbestos exposure after completion. Asbestos near utility lines would be removed and transported for proper disposal. Any remaining residual asbestos would be covered to prevent exposure. The cover would be vegetated to mitigate erosion with native vegetation that will reduce long-term maintenance.

5.5.1.4 Reduction of toxicity, mobility, or volume through treatment

Alternative 5 would not include treatment, however the mobility of the asbestos would be reduced through the proper installation and maintenance of the vegetated cover.

5.5.1.5 Short-term effectiveness

Alternative 5 includes excavation, handling, transportation, and disposal that would result in minor short-term asbestos exposure risks. Proper personal protective equipment and waste management practices will be employed to mitigate this risk. Complete removal through excavation may appear to have the potential for higher short-term risk; however, the grading of asbestos containing materials and soils necessary for placement of a cover will also result in increased short-term risk.

5.5.2 Implementability

Alternative 5 is technically and administratively feasible. Both excavation and covering of ACM and asbestos fibers have been conducted at the Johns Manville site. Coordination with the City of Waukegan and ComEd should be easily carried out. The necessary services and materials are readily available.

5.5.2.1. Technical feasibility

Alternative 5 is technically feasible. Complete removal is relatively simple. Properly trained workers would be needed and coordination with the various utilities would be necessary. Relocation of utilities for construction projects occurs frequently and doesn't overly complicate the removal process provided proper location of the utilities and coordination with the owners is done in advance. This process is easier to implement in the short-term because institutional knowledge fades with time.

5.5.2.2 Administrative feasibility

Alternative 5 is administratively feasible. Both excavation and covering of ACM and asbestos fibers have been conducted at the Johns Manville site. Coordination with the City of Waukegan and ComEd should be easily carried out due to their past involvement with the sites. Covering of ACM and asbestos fibers could be implementable in limited areas; however, it is unknown whether the necessary Institutional Controls could be properly implemented, monitored, and enforced for all of the utilities present at the Sites. Responding to emergencies including, but not limited to gas leaks may require prompt access to Sites. Respondents must determine and reach agreement with the utilities regarding how damaged utilities will be disconnected outside of the boundaries of the Sites in case of emergencies and develop response plans for each utility line. Respondents must provide and maintain all necessary agreements and procedures in advance to control access even during emergencies. Respondents must also demonstrate their ability to prevent access (including emergencies) to the Sites to anyone that is not following approved work plans and procedures. If Respondents fail to do so at any time, full removal of ACM is necessary to create clean corridors for the utilities.

5.5.2.3 Availability of services and materials

The necessary services and materials are readily available in the area of the sites. Workers with appropriate training and experience in handling asbestos are also readily available.

5.5.2.4 State and community acceptance

EPA will evaluate State and Community acceptance after the public comment period, however, it anticipates that State and community will accept the Alternative 5. Potential concerns they may have are not expected to result in significant changes to the selected response action.

5.5.3 Cost

The estimated net present value cost for Alternative 5 is \$5,899,000. Alternative 5's cost is considered to be reasonable given the high level of effectiveness and protectiveness achieved.

5.5.3.1 Direct and indirect capital cost

The direct and indirect capital cost for Alternative 5 is estimated to be \$5,533,000. This cost includes: excavating, transporting and disposing of asbestos; filling wet areas; installing vegetated covers; relocating utilities; etc., as more fully described above.

5.5.3.2 Long-term operation and maintenance cost

The long term operation and maintenance cost for Alternative 5 is estimated to be \$366,000. This cost includes maintaining fencing, warning signs and vegetated covers, etc., as more fully described above.

Comparative Analysis of Removal Action Alternatives

6.1 Effectiveness

The first two sentences are replaced with the following: **Alternative 1 and 5 are considered protective of public health and the environment. Except for Site 6 and the utility easements, Alternative 2 is protective of public health and the environment. Alternative 3 and 4 would not be protective and would not be compliant with ARARs.**

6.1.1 Overall Protection of public health and the environment

Delete the first sentence and replace with the following: **Except for Site 6 and the utility right of way portions of the Site, Alternative 2 would be protective of human health and the environment. At Site 6 and utility right of way portions of the Site, Alternative 5 is protective because it removes all ACM necessary. Alternatives 2, 3 and 4 are not protective**

at Site 6 because they leave ACM in place in the public right of way. In order to be protective of public health, complete removal is required at Site 6 because the ACM is located in the public right-of-way for Greenwood Avenue. There is no reliable way to prevent access and maintain a two-foot cap with vegetation over the ACM at Site 6. Any vegetated cover and fencing placed at the edge of Greenwood Avenue would be subject to potential damage from vehicles, snow plows, salt trucks, etc. Sites 3, 4/5 and 6 also contain utilities and any cover would be disturbed during maintenance or repair activities. Such disturbance may result in the release of ACM and asbestos fibers. In contrast, the need for access and repair to the sewer line at Sites 4/5 appears to be much lower than other utilities. Utilities such as natural gas, electric, telephone, fiber optics, and water in Sites 3, 4/5, and 6 require immediate access and repair. Therefore, excavation of clean corridors must be provided for such utilities as soon as possible to prevent the potential release of ACM and asbestos fibers. Alternative 1 would be protective of public health and the environment if it provided for complete removal of all ACM and asbestos fibers. Alternatives 5 would be protective of public health and the environment with proper environmental stewardship.

Delete the last sentence.

6.1.2 Compliance with ARARs, other criteria, advisories and guidance

Replace this section with the following: Alternatives 2, 3 and 4 would not be in compliance with ARARs for Site 6 (the right of way on Greenwood Avenue) and may not be in compliance for the utility easements on Sites 3, 4/5 and 6. Also, Alternatives 3 and 4 would not comply with ARARs for Site 3. Alternative 1 would be in compliance with ARARs if it provided for complete removal of all ACM and asbestos fibers. Alternative 5 for Sites 3, 4/5, and 6 would be in compliance with ARARs.

6.1.3 Long-term effectiveness

Long-term effectiveness of any of the alternatives that allow ACM or asbestos fibers to remain in place is reduced by the presence of utilities that require maintenance and repair, especially those that may require immediate action due to damage or failure. Utilities such as natural gas, electric, communications, and water in Sites 3, 4/5, and 6 require immediate access and repair in contrast to the sewer line at Sites 4/5. Time-critical excavation necessary to respond to an emergency situation such as a gas leak or a damaged electrical line would be more likely to result in the potential release of ACM and asbestos fibers. In the event of a breach or other loss of integrity, pressurized underground utilities also have the potential to force overlying soils to the surface resulting in the potential release of ACM and asbestos fibers. Therefore, excavation of clean corridors for all such utilities must be provided as soon as possible to prevent the potential release of ACM and asbestos fibers. The replacement of a sewer line such as the one in Site 4/5 is likely to require significant advanced planning that will reduce the potential for release of ACM and asbestos fibers.

Furthermore, rerouting or reconfiguration of the sewer line may also reduce the potential for the release of ACM or asbestos fibers. Alternative 1 would have good long-term effectiveness if it provided for complete removal of all ACM and asbestos fibers.

Alternative 5 would also have good long-term effectiveness with proper environmental stewardship. Alternative 1 (complete removal) and Alternative 5 have slightly lower relative residual risk compared to Alternatives 2, 3, and 4.

6.2.1 Technical feasibility

The first sentence is modified as follows.

Alternative 1 involves complete ACM removal; ~~however, given the presence of utilities, with the possible exception of portions of Site 6, this alternative is neither technically feasible nor practicable.~~ **which is considered a standard remedial alternative and is technically feasible given site conditions.**

6.2.2 Administrative feasibility

The second sentence is modified as follows.

Disruption of utility service during implementation of Alternative 1 may ~~be necessary~~**not be** feasible (e.g., disruption of phone service or temporary cutoff of the fiber optic line needed for substation operation).

Alternatives 2, 3, 4 and 5 rely on environmental covenants. It is unknown whether Alternatives 2, 3 and 4 may be implemented because it is unknown if the utility easement holders will be willing to implement the environmental covenants. Under Alternative 5, complete removal of ACM will be accomplished in utility right of ways with the possible exception of Sites 4/5, where the only utilities are an unused gas line and a sewer line. If the unused gas line can be properly abandoned at Greenwood Avenue to the south of Sites 4/5 and the required environmental covenants are submitted, Sites 4/5 may be covered with the Vegetated Soil Cover.

6.2.3 Availability of services and materials

Required services and materials for Alternatives 1,2,3,4 **and 5** are available within Waukegan and surrounding areas.

6.2.4 State and community acceptance

It is anticipated that the state and community acceptance factor would be met for Alternative 5.

6.3.1 Direct and indirect capital costs

This section is modified to include the following: **Alternative 5 has higher capital costs because it includes a comprehensive approach to mitigate exposure to asbestos, including fencing, warning signs, removing asbestos from utility corridors and filling to elevate vegetated covers above grade in wet areas such as Sites 4/5, thereby improving the long-term stability of the covers.**

6.3.2 Long-term operation and maintenance costs

This section is modified to include the following: “Alternative 5 has somewhat higher O&M costs because it more fully addresses the asbestos at the sites and includes stable, low-maintenance cover systems.”

Tables 5-10

Tables 5-10 are replaced with the attached tables.

Table 11

Table 11 is incorporated to provide a summary of Alternative 5.

Modification to Appendix O Soil Management and Health and Safety Plan

4. Soil Management Plan

Add below as first paragraph and renumber following subparagraphs:

a. **Notification:** A 48-hour notice of intent to enter the property shall be provided to ComEd and JM prior to any excavation and construction on the property. ComEd and JM personnel shall provide oversight for handling of asbestos contaminated materials during any excavation on the property. Notification shall be provided to:

ComEd:

ComEd Environmental Manager, currently

Tim Bulthaup

Manager, Environmental Programs

ComEd

3 Lincoln Centre

Oakbrook Terrace, Illinois 60181

Office: 630-576-6725

Cell: 630-247-9569

Pager: 877-366-0967

JM:

Waukegan Site Manager, currently

Denny Clinton

Johns Manville

1871 North Pershing Road

Waukegan, Illinois 60087

Cell: 303-808-2127

EPA's Remedial Project Manager, currently

Matthew J. Ohl
Remedial Project Manager
United States Environmental Protection Agency
77 West Jackson Boulevard, SR-6J
Chicago, IL 60604-3590
phone: 312.886.4442
fax: 312.692.2447

b. c. Removal of Soil Barrier, second sentence: Modify as follows:

"Prior to disturbing the underlying the impacted soil, the surface of the barrier will be inspected for ACM and any ACM present will be removed and properly disposed of off-site. Notification of this condition to all parties listed in paragraph above must be made immediately and cover materials must be managed as a waste material during excavation, grading, or other handling. Following the surface inspection and removal of any identified ACM, the barrier will be removed in..."

b. c. Removal of Soil Barrier, third sentence: Modify as follows:

"However, to further mitigate the potential for cross-contamination if asbestos-affected soil is mixed with the soil barrier during excavation, the soil barrier materials removed deeper than eighteen inches below ground surface and any soil barrier materials that may have come into contact with or mixed with asbestos affected soil or any soil below the barrier will be considered contaminated and will not be re-used as clean soil barrier material."

b. c. Removal of Soil Barrier, last sentence: Modify as follows:

"In that case, this material must be managed as a waste material, which could include and must be disposed of off-site disposal at a facility licensed to accept asbestos wastes. or re-placement beneath the re-constructed soil barrier at the conclusion of the work."

e. d. Dust Control Procedures, last sentence: Modify as follows:

"The presence of visible emissions in any work area shall result in immediate notification of this condition to all parties listed in paragraph a above and immediate stoppage of all activities in that area until visible emissions can be controlled."

d.e. On-Site Management of Excavated Soils: Modify as follows:

"During any excavation and construction activities shall either be (i) placed directly into plastic-lined roll-off boxes or trucks or (ii) staged on, and at the end of each work day, covered by

~~competent plastic sheeting.~~ At no time will asbestos-affected debris/soil be allowed to remain uncovered overnight.”

e- **f. Off-Site Soil Disposal**, modify as follows:

“~~All~~**ny** asbestos-affected soil/debris that is not returned to the excavation beneath the clean soil barrier shall be disposed off-site at a facility licensed to accept asbestos wastes in accordance with all local, state, and federal regulations.”

f. **g. Equipment Decontamination**, second sentence – modify as follows:

“Decontamination may include ~~gross~~ removal of visible debris ~~or~~**and** equipment washing **and** ~~rinse~~**ate testing**, as ~~appropriate to the task~~**necessary to ensure no asbestos fibers remain on the equipment or otherwise leave the area of excavation.**

Appendix M is modified to include the cost tables for Alternative 5.

Appendix N is modified to include the following Environmental Covenants:

- N.1 Environmental Covenant re: Greenwood Avenue
- N.2 Environmental Covenant re: Site 3
- N.3 Environmental Covenant re: Site 4/5 and North Shore Sanitary District
- N.4 Environmental Covenant re: Site 4/5 and North Shore Gas
- N.5 Environmental Covenant re: Site 4/5

Appendix O Figures – All figures must be made the same as those in the final EE/CA.

DRAFT Appendix N.1

Environmental Covenant – City of Waukegan re: Greenwood Avenue

[space above reserved for recording information]

This instrument was prepared by:

Name:

Address:

Please return this instrument to:

Name:

Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among City of Waukegan (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. Property and Grantor.

A. **Property:** The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the “Property”. The county parcel number for this Property is _____.

B. **Grantor:** City of Waukegan is the current fee owner of the Property and is the “Grantor” of this Environmental Covenant. The mailing address of the Grantor is _____.

3. Holders (and Grantees for purposes of indexing).

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. The City of Waukegan is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of the City of Waukegan is _____. Regardless of any future transfer of the Property, the City of Waukegan shall remain a Holder of this Environmental Covenant. City of Waukegan is to be identified as both Grantee and Grantor for purposes of indexing.

C. Commonwealth Edison is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison is _____.

D. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. **Agencies.** The Illinois EPA and the U.S. EPA are “Agencies” within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. **Environmental Response Project and Administrative Record.**

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is part of the Johns Manville Southwestern Site Area (“Site”), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Southwestern Site that provided, in part, for the placement of land use restrictions for the Southwestern Site. Asbestos-containing material may remain underneath the paved areas in the area demarcated in Appendix B on the Property. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site. This Environmental Covenant is required by the removal action.

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. **Grant of Covenant. Covenant Runs With The Land.** Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall “run with the land” in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. **Activity and Use Limitations.** The following Activity and Use Limitations apply to the use of the Property:

No excavation under Greenwood Avenue: The extent of asbestos contamination, if any, associated with the soils underneath the paved areas demarcated in Appendix B has not been determined. No action shall be taken to drill or intrude into, or demolish the paved areas demarcated in Appendix B unless the Owner, Johns Manville or Commonwealth Edison conducts an extent of contamination study and removes all soils containing asbestos in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.

8. **Right of Access.** Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

- A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;
- B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;
- C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and
- D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor:** Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use:** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation:**

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. Enforcement and Compliance.

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

- i. the Illinois Environmental Protection Agency;
- ii. the Holders of the Environmental Covenant;
- iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this

Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. Amendment or Termination. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Holder:

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located.

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification. Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

- i. the Illinois EPA;
- ii. the U.S. EPA;
- iii. the Holders;
- iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
- v. each person in possession of the Property; and
- vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner, Holder Johns Manville and Holder Commonwealth Edison shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. The Owner, Holder Johns Manville and Holder Commonwealth Edison shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and map of the Property

Appendix B – Map of paved areas

Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan

Appendix D – Title Commitment

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

City of Waukegan

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of the City of Waukegan, on behalf of City of Waukegan.

_____ (signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Commonwealth Edison

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____ (signature)

Notary Public

My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By _____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by
_____, a delegate of the Director of the Illinois Environmental Protection
Agency, a state agency, on behalf of the State of Illinois.

_____, (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)

Notary Public

My

Commission

Expires

Appendix A – Legal Description and map of the Property

The Property is located in the City of _____, _____ County, State of Illinois and more particularly described as:

Common Address:

Legal Description:

Real Estate Tax Index or Parcel #:

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. Property and Grantor.

A. **Property:** The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. **Grantor:** Commonwealth Edison Company is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. Holders (and Grantees for purposes of indexing).

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is _____. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. **Agencies.** The Illinois EPA and the U.S. EPA are “Agencies” within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. **Environmental Response Project and Administrative Record.**

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is part of the Johns Manville Southwestern Site Area (“Site”), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). Asbestos-containing materials has been discovered on the Property in the areas shown in Appendix B. In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Property that provided, in part, for the placement and maintenance of a vegetated soil cover on the Property. The vegetated soil cover means at least six inches of non-asbestos-containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: geotextile layer overlain by 15 inches of native clayey soil, three inches of topsoil and a vegetated cover. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site, including the Property, which are set forth in this Environmental Covenant..

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. **Grant of Covenant. Covenant Runs With The Land.** Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall “run with the land” in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. **Activity and Use Limitations.** The following Activity and Use Limitations apply to the use of the Property:

- a. No action shall be taken to disturb or intrude into the vegetated soil cover described in paragraph 5.B or to excavate soils on the Property described in Appendix A unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.
- b. The Owner and/or Johns Manville shall maintain the vegetated soil cover and, if the vegetated soil cover is disturbed, the Owner and/or Johns Manville shall immediately repair or replace the vegetated soil cover according to its original specification described in paragraph 5.B. of this Environmental Covenant.
- c. Prior to the placement of any utility line or other structure on the Property, either the Owner or Johns Manville shall remove all asbestos-containing material and backfill with clean soil such that there shall be a minimum depth of two feet below each utility line (or other structure) and a minimum width of 25 feet centered on each utility line (or other structure) to provide a clean corridor for future maintenance of the line or structure. Excavated asbestos-containing material soil shall be disposed of off-site in an asbestos-licensed facility.
- d. No action shall be taken to construct buildings on the Property.
- e. All uses of the Property are prohibited except those compatible with industrial land use.
- f. No action shall be taken to disturb the fence surrounding Site 3 as described in Appendix E.
- g. No activities shall be conducted on the Property that extract, consume, or otherwise use any groundwater from the Property.

8. **Right of Access.** Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

- A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;
- B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;

- C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and
- D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor:** Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use:** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation:**

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. **Enforcement and Compliance.**

A. **Civil Action for Injunction or Equitable Relief.** This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

- i. the Illinois Environmental Protection Agency;
- ii. the Holders of the Environmental Covenant;
- iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. Amendment or Termination. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the

Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Holder:

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification.

Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

- i. the Illinois EPA;
- ii. the U.S. EPA;
- iii. the Holders;
- iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
- v. each person in possession of the Property; and
- vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.]

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. **Effective Date.** This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. **List of Appendices:**

Appendix A – Legal Description and Map of the Property

Appendix B – Map of Known Extent of Asbestos-Containing Material on Property

Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan

Appendix D – Title Commitment

Appendix E – Map of Fence surrounding Site 3

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____ (signature)

Notary Public

My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By _____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by
_____, a delegate of the Director of the Illinois Environmental Protection
Agency, a state agency, on behalf of the State of Illinois.

_____, (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)

Notary Public

My

Commission

Expires

Appendix A – Legal Description and map of the Property

The Property is located in the City of _____, _____ County, State of Illinois and more particularly described as:

Common Address:

Legal Description:

Real Estate Tax Index or Parcel #:

DRAFT Appendix N.3
Environmental Covenant Re: Site 4/5
North Shore Sanitary District

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. **Property and Grantor.**

A. **Property:** The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. **Grantor:** Commonwealth Edison Company is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. **Holders (and Grantees for purposes of indexing).**

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is _____. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. North Shore Sanitary District is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of North Shore Sanitary District is _____. North Shore Sanitary District is the holder of an Indenture dated August 14, 1959 on the Property described in Appendix A. North Shore Sanitary District agrees to this Environmental Covenant and agrees that any Indentures that it holds on the Property described in Appendix A are subject to this Environmental Covenant for all purposes, and as if said Environmental Covenant had been executed, delivered and recorded prior to the Indentures or other interests in the Property.

D. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. **Agencies.** The Illinois EPA and the U.S. EPA are “Agencies” within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. **Environmental Response Project and Administrative Record.**

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is part of the Johns Manville Southwestern Site Area (“Site”), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). Asbestos containing material has been discovered on the Property located in the area described in Appendix B and may be present on the remaining area of the Property. In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Property that provided for, in part, placement of vegetated soil cover and activity and use restrictions on the Property, and removal of all asbestos containing material to a minimum depth of two feet below and a minimum width of 25 feet centered on the sewer line during major maintenance or replacement of the North Shore Sanitary District Sewer line. The vegetated soil cover means at least six inches of non-asbestos-containing sand, beneath compacted non-asbestos-containing soils with the following minimum composition: a geotextile layer overlain by 15 inches of native clayey soil, three inches of topsoil and a vegetated cover. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site, which are set forth in this Environmental Covenant.

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. **Grant of Covenant. Covenant Runs With The Land.** Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall “run with the land” in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. **Activity and Use Limitations.** The following Activity and Use Limitations apply to the use of the Property:

No action shall be taken to disturb or intrude into the vegetated soil cover described in Paragraph 5.B of this Environmental Covenant unless the Owner or a Holder of this Environmental Covenant controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.

The next scheduled major repair or replacement date for the utility line described in Appendix E is _____, at which time significant excavation and removal of the utility line is expected to occur. In conjunction with this major repair or replacement, the North Shore Sanitary District, Johns Manville and Commonwealth Edison shall remove all asbestos containing material to a minimum depth of two feet below and a minimum width of 25 feet centered on the sewer line described in Appendix E to provide a clean corridor for future utility maintenance in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C. Excavated soil containing asbestos material shall be disposed of off-site in an asbestos-licensed facility. Any excavation shall be backfilled with clean non-asbestos containing material and the vegetative cover shall be restored to original specifications as set forth in paragraph 5.B of this Environmental Covenant.

8. **Right of Access.** Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;

- B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;
- C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and
- D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor:** Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use:** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation:**

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. **Enforcement and Compliance.**

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

- i. the Illinois Environmental Protection Agency;
- ii. the Holders of the Environmental Covenant;
- iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. Amendment or Termination. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Holder:

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or

modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification.

Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

- i. the Illinois EPA;
- ii. the U.S. EPA;
- iii. the Holders;
- iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
- v. each person in possession of the Property; and
- vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.]

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and map of the Property subject to North Shore Gas Indenture

Appendix B – Map of Known Extent of Asbestos-Containing Material on Property

Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan

Appendix D – Title Commitment

Appendix E – North Shore Gas Indenture

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

North Shore Sanitary District

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of North Shore Sanitary District, on behalf of North Shore Sanitary District.

_____(signature)
Notary Public
My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By _____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by
_____, a delegate of the Director of the Illinois Environmental Protection
Agency, a state agency, on behalf of the State of Illinois.

_____, (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)

Notary Public

My

Commission

Expires

Appendix A – Legal Description and map of the Property

The Property is located in the City of _____, _____ County, State of Illinois and more particularly described as:

Common Address:

Legal Description:

Real Estate Tax Index or Parcel #:

DRAFT Appendix N.4
Environmental Covenant Re: Site 4/5
North Shore Gas Company – abandonment and vegetated soil cover

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. **Property and Grantor.**

A. **Property:** The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the “Property”. The county parcel number for this Property is _____.

B. **Grantor:** Commonwealth Edison Company is the current fee owner of the Property and is the “Grantor” of this Environmental Covenant. The mailing address of the Grantor is 72 West Adams St, Chicago, Illinois.

3. **Holders (and Grantees for purposes of indexing).**

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is 72 West Adams Street, Chicago, IL. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. North Shore Gas Company is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of North Shore Gas Company is _____. North Shore Gas Company has a property interest in the Property described in Appendix A. North Shore Gas Company agrees to abandon the gas line described in Appendix E. North Shore Gas Company agrees to the Environmental Covenant and agrees that any interest that it holds on the Property described in Appendix A are subject to this Environmental Covenant for all purposes, and as if said Environmental Covenant had been executed, delivered and recorded prior to the its interests in the Property.

D. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. **Agencies.** The Illinois EPA and the U.S. EPA are “Agencies” within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. **Environmental Response Project and Administrative Record.**

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is part of the Johns Manville Southwestern Site Area (“Site”), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Southwestern Site that provided in part, for the placement and maintenance of a vegetated soil cover at the Site. The vegetated soil cover means at least six inches of non-asbestos-containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: geotextile layer overlain by fifteen inches of native clayey soil, overlain by three inches of topsoil and a vegetated cover. The removal action also requires abandonment of the North Shore Gas Company line located on the Property and execution of this Environmental Covenant.

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. Grant of Covenant. Covenant Runs With The Land. Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall “run with the land” in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. Activity and Use Limitations. The following Activity and Use Limitations apply to the use of the Property:

No action shall be taken to disturb or intrude into the vegetative soil cover described in Paragraph 5.B. or to excavate soils on the Property described in Appendix A unless the Owner or a Holder of this Environmental Covenant controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.

The Owner and/or Johns Manville shall maintain the vegetated soil cover and, if the vegetated soil cover is disturbed, the Owner and/or Johns Manville shall immediately repair or replace the vegetated soil cover according to the original specification described in paragraph 5.B. of this Environmental Covenant.

8. Right of Access. Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

- A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;
- B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;
- C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and
- D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor:** Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use:** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation:**

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. **Enforcement and Compliance.**

A. **Civil Action for Injunction or Equitable Relief.** This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

- i. the Illinois Environmental Protection Agency;
- ii. the Holders of the Environmental Covenant;
- iii. U.S. Environmental Protection Agency;

B. **Other Authorities Not Affected. No Waiver of Enforcement.** All remedies available hereunder shall be in addition to any and all other remedies at law or in equity,

including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. Amendment or Termination. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Holder:

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification. Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

- i. the Illinois EPA;
- ii. the U.S. EPA;
- iii. the Holders;

- iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
- v. each person in possession of the Property; and
- vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.]

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and map of the Property subject to the North Shore Gas Company Easement

Appendix B – Map of Known Extent of Asbestos-Containing Material on Property

Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan
Appendix D – Title Commitment
Appendix E – North Shore Gas Company Easement

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____ (signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

North Shore Sanitary District

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of North Shore Sanitary District, on behalf of North Shore Sanitary District.

_____ (signature)

Notary Public

My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By _____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by
_____, a delegate of the Director of the Illinois Environmental Protection
Agency, a state agency, on behalf of the State of Illinois.

_____, (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)

Notary Public

My

Commission

Expires

Appendix A – Legal Description and map of the Property

The Property is located in the City of _____, _____ County, State of Illinois and more particularly described as:

Common Address:

Legal Description:

Real Estate Tax Index or Parcel #:

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. **Property and Grantor.**

A. **Property:** The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. **Grantor:** Commonwealth Edison Company is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. **Holders (and Grantees for purposes of indexing).**

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is _____. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is _____.

4. Agencies. The Illinois EPA and the U.S. EPA are “Agencies” within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. Environmental Response Project and Administrative Record.

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is part of the Johns Manville Southwestern Site Area (“Site”), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”). Asbestos-containing material has been discovered on the Property located in area described in Appendix B. In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Property, that provided, in part, for the placement and maintenance of a vegetated soil cover. The vegetated soil cover means at least six inches of non-asbestos containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: a geotextile layer overlain by 15 inches of native clayey soil, three inches of topsoil and a vegetated cover. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site. The removal action requires the implementation of this Environmental Covenant.

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. Grant of Covenant. Covenant Runs With The Land. Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall “run with the land” in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. **Activity and Use Limitations.** The following Activity and Use Limitations apply to the use of the Property:

- a. No action shall be taken to disturb or intrude into the vegetated soil cover described in paragraph 5.B. or to excavate soils on the Property described in Appendix A unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos fibers or asbestos-containing material off-site in a licensed facility in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.
- b. The Owner and/or Johns Manville shall maintain the vegetated soil cover and, if the vegetated soil cover is disturbed, the Owner shall immediately repair or replace the cover according to its original specification described in paragraph 5.B. of this Environmental Covenant.
- c. Prior to the placement of any utility line on the Property, either the Owner or Johns Manville shall remove all soil contaminated with asbestos and asbestos-containing material and backfill with clean soil such that there shall be a minimum depth of two feet below each utility line and a minimum width of 25 feet centered on each utility line (or other structure) to provide a clean corridor for future maintenance of the line or structure. Excavated asbestos-containing material soil shall be disposed of off-site in an asbestos-licensed facility.
- d. No action shall be taken to construct a building on the Property.
- e. All uses of the Property are prohibited except those compatible with industrial land use.
- f. No action will be taken to disturb the fence surrounding Site 4/5 as described in Appendix E.
- g. No activities shall be conducted on the Property that extract, consume, or otherwise use any groundwater from the Property.

8. **Right of Access.** Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

- A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;

- B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;
- C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and
- D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor:** Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use:** No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation:**

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. **Enforcement and Compliance.**

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

- i. the Illinois Environmental Protection Agency;
- ii. the Holders of the Environmental Covenant;
- iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. **Amendment or Termination.** Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. **Notices:** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

To Holder:

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. **Recording and Notice of Environmental Covenant, Amendments and Termination.**

A. **The Original Environmental Covenant.** An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. **Termination, Amendment or Modification.** Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or

modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification.

Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

- i. the Illinois EPA;
- ii. the U.S. EPA;
- iii. the Holders;
- iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
- v. each person in possession of the Property; and
- vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.]

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and Map of the Property

Appendix B – Map of Known Extent of Asbestos-Containing Material on Property

Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan

Appendix D – Title Commitment

Appendix E - Map of Fence

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____ (signature)

Notary Public

My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By _____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.

County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____ (signature)

Notary Public

My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By _____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by
_____, a delegate of the Director of the Illinois Environmental Protection
Agency, a state agency, on behalf of the State of Illinois.

_____, (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)

Notary Public

My

Commission

Expires

Appendix A – Legal Description and map of the Property

The Property is located in the City of _____, _____ County, State of Illinois and more particularly described as:

Common Address:

Legal Description:

Real Estate Tax Index or Parcel #:

Table 5
Cost Evaluation Summary
Southwestern Site Area
Waukegan, IL

Area of Concern	Alternative 1 Excavation	Alternative 2 Soil Barrier	Alternative 3 Hybrid Remedy	Alternative 4 Alternate Soil Barrier	Alternative 5 Modified Alternative
Site 3	Excavation and Off-Site Disposal (11,400 to 15,200 cy), and institutional controls \$1,758,000 to \$2,282,000	Soil Barrier (3.1 acre), and institutional controls \$585,000* to \$621,000	Limited Soil Barrier (0.6 acre), Surface pickup and institutional controls \$376,000* to \$383,000	Soil Barrier (2.0 acre), and institutional controls \$548,000* to \$571,000	Utility Corridor Excavation (10,000 cy), Soil Barrier (3.1 acre), and institutional controls \$2,196,000
Site 4/5	Excavation and Off-Site Disposal (16,700 to 25,000 cy), and institutional controls \$5,200,000 to \$7,356,000	Soil Barrier (3.2 acre area), and institutional controls \$829,000* to \$865,000	Partial Excavation and Off-site Disposal (4,000 to 5,000 cy), Soil Barrier (3.2 acre area), and institutional controls \$1,186,000* to \$1,222,000	Soil Barrier (3.2 acre area), and institutional controls \$829,000* to \$865,000	Modified Soil Barrier (5.9 acre area), and institutional controls \$1,468,000
Site 6	Excavation and Off-Site Disposal (3,200 to 7,500 cy), and institutional controls \$864,000 to \$2,093,000	Soil Barrier (1.1 acre area), and institutional controls \$325,000* to \$337,000	Soil Barrier (0.2 acre area), Excavation (2,400 to 3,300 cy), and institutional controls \$422,000* to \$497,000	Soil Barrier 1.1 acre area), and institutional controls \$325,000* to \$337,000	Modified Excavation and Off-Site Disposal (5,200 cy), and institutional controls \$1,869,000
O&M Requirements (NPV)	None	Routine inspection, soil barrier maintenance, and institutional controls \$480,000	Routine inspection, Site 3 surface pickup, soil barrier maintenance, and institutional controls \$450,000	Routine inspection, soil barrier maintenance, and institutional controls \$480,000	Routine inspection, soil barrier maintenance, and institutional controls for Sites 3 and 4/5 \$366,000
Total NPV	\$7,822,000 to \$11,731,000	\$2,219,000 to \$2,303,000	\$2,434,000 to \$2,552,000	\$2,182,000 to \$2,253,000	\$5,899,000

Respondent's Preferred Alternative	Cost
Site 3 (Alternative 2)	\$585,000 to \$621,000
Site 4/5 (Alternative 2)	\$829,000 to \$865,000
Site 6 (Alternative 3)	\$422,000 to \$497,000
O&M Requirements	\$399,000
Total NPV	\$2,235,000 to \$2,382,000

Notes

- * Cost without geotextile
- ACM Asbestos-containing materials
- cy Cubic yards
- NPV Net present value
- O&M Operation and maintenance

Table 6
Summary Evaluation of Alternative 1 (Excavation)
Southwestern Site Area
Waukegan, IL

Evaluation Criteria		Alternative Evaluation
Effectiveness		
Overall protection of public health and the environment		Protective of human health and the environment Very low likelihood of ACM waste disturbance following placement in off-site permitted landfill
Compliance with ARARs, other criteria, advisories, and guidance		Excavation would result in compliance with applicable ARARs, including the Agreement Transportation and disposal can be completed in compliance with applicable regulations The wetland area within Site 4/5 will be restored on-site.
Long-term effectiveness and permanence		Low residual risk after remedy completion Low exposure risk for asbestos placed in off-site landfill
Reduction of toxicity, mobility, or volume through treatment		No treatment is proposed Transfers long-term management of asbestos to a secure landfill
Short-term effectiveness		Some short-term exposure risk during excavation, transportation, and disposal activities Relatively short travel distance to off-site landfill disposal (covered/wrapped contents in rolloff box)
Implementability		
Technical feasibility		Complete removal may be complicated due to the presence of subsurface utilities at Sites 3, 4/5, and 6.
Administrative feasibility		Administratively feasible Coordination and access is required with property owners, utility owners, and City of Waukegan
Availability of services and materials		All services and materials are available
State and community acceptance		Potential community concerns regarding short-term airborne asbestos during ACM excavation lasting 2 to 4 months.
Cost		
Direct and indirect capital costs		\$7,822,000 to \$11,731,000
Long-term (30-year) O&M costs (NPV)		\$0

Notes

ARARs	Applicable or relevant and appropriate requirements
ACM	Asbestos-containing material
cy	Cubic yards
IDOT	Illinois Department of Transportation
NPV	Net present value
O&M	Operation and maintenance

Table 7
Summary Evaluation of Alternative 2 (Soil Barrier)
Southwestern Site Area
Waukegan, IL

Evaluation Criteria	Alternative Evaluation
Effectiveness	
Overall protection of public health and the environment	Except for Site 6 and the utility easement portions of Site 3 and 4/5, protective of human health and the environment; Low likelihood of ACM waste disturbance with institutional controls and maintenance at Site 3 and Site 4/5; however high likelihood of ACM disturbance at Site 6 and utility easement areas.
Compliance with ARARs, other criteria, advisories, and guidance	Barrier remedy can be completed in compliance with ARARs at portions of Sites 3 and 4/5; however, this alternative is not in compliance with ARARs at Site 6 or areas subject to utility easements. Limited transported waste will be completed in compliance with IDOT regulations The wetland area within Site 4/5 will be restored on-site.
Long-term effectiveness and permanence	Low residual risk after remedy completion with the exception of Site 6 and utility easements of Sites 3 and 4/5. Long-term effectiveness is consistent with CERCLA landfill on the adjacent JM property; however, the CERCLA landfill area is fenced to restrict access and does not have utility easements. Requires long-term on-site maintenance of soil barrier and institutional controls to ensure that cover is maintained and ACM will not migrate to the surface.
Reduction of toxicity, mobility, or volume through treatment	No treatment is proposed
Short-term effectiveness	Minimal worker exposure risk
Implementability	
Technical feasibility	Engineered barrier for Site 3 is technically feasible Engineered barrier for Site 6 is technically feasible Raised mound for Site 4/5 engineered barrier requires stormwater drainage system for adjacent parking area
Administrative feasibility	Administratively feasible Coordination and access is required with property owners and City of Waukegan
Availability of services and materials	All services and materials are available
State and community acceptance	The state and community have not expressed concerns. Consistent approach with adjacent JM closed CERCLA landfill; however, the CERCLA landfill area is fenced to restrict access and does not have utility easements.
Cost	
Direct and indirect capital costs	\$2,219,000 to \$2,303,000
Long-term (30-year) O&M costs (NPV)	\$480,000

Notes

ARARs	Applicable or relevant and appropriate requirements
ACM	Asbestos-containing material
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
IDOT	Illinois Department of Transportation
JM	Johns Manville
NPV	Net present value
O&M	Operation and maintenance

Table 8
Summary Evaluation of Alternative 3 (Hybrid Approach)
Southwestern Site Area
Waukegan, IL

Evaluation Criteria	Alternative Evaluation
Effectiveness	
Overall protection of public health and the environment	Site 4/5 is protective of human health and the environment; however the south side of Greenwood Ave at Site 6, Site 3 pickup areas, and the utility easement portions of the Sites are not protective. Very low likelihood of ACM waste disturbance following placement in off-site permitted landfill Low likelihood of ACM waste disturbance with institutional controls and maintenance; however high likelihood of ACM disturbance at Site 3 pickup areas, Site 6 and utility easements.
Compliance with ARARs, other criteria, advisories, and guidance	Soil barrier placement and excavation remedy can be partially completed in compliance with ARARs; however, Site 3 pickup areas, Site 6, and areas subject to utility easements are not in compliance with ARARs. Transported waste will be completed in compliance with IDOT regulations The wetland area within Site 4/5 will be restored on-site.
Long-term effectiveness and permanence	Low residual risk after remedy completion with the exception of the Site 3 pickup areas, Site 6, and utility easements. Low exposure risk for asbestos placed in off-site landfill Requires long-term on-site maintenance of soil barrier and institutional controls to ensure that cover is maintained and ACM will not migrate to the surface.
Reduction of toxicity, mobility, or volume through treatment	No treatment is proposed Transfers asbestos to a secure landfill while other ACM is contained on-site under barrier
Short-term effectiveness	Some short-term exposure risk during limited excavation activities lasting 1.5 to 2 months Relatively short travel distance to off-site landfill disposal
Implementability	
Technical feasibility	Surface pickup for Site 3 is technically feasible Soil barrier is technically feasible Excavation and off-site disposal is technically feasible
Administrative feasibility	Administratively feasible Coordination and access is required with property owners and City of Waukegan
Availability of services and materials	All services and materials are available Coordination required with property owners and City of Waukegan
State and community acceptance	No concerns anticipated due to limited excavation volumes Transportation permits/coordination for truck route may be required.
Cost	
Direct and indirect capital costs	\$2,434,000 to \$2,552,000
Long-term (30-year) O&M costs (NPV)	\$450,000

Notes

ARARs	Applicable or relevant and appropriate requirements
ACM	Asbestos-containing material
cy	Cubic yards
IDOT	Illinois Department of Transportation
NPV	Net present value
O&M	Operation and maintenance

Table 9
Summary Evaluation of Alternative 4 (Alternate Soil Barrier)
Southwestern Site Area
Waukegan, IL

Evaluation Criteria	Alternative Evaluation
Effectiveness	
Overall protection of public health and the environment	Except for Site 6, Site 3 pickup areas, and the utility easement portions of Site 3 and 4/5, protective of human health and the environment. Low likelihood of ACM waste disturbance with institutional controls and maintenance at Site 4/5; however Site 6 and utility easement areas are subject to ACM disturbance.
Compliance with ARARs, other criteria, advisories, and guidance	Soil barrier placement and excavation remedy can be completed in compliance with ARARs at portions of Site 4/5; however, this alternative is not in compliance with ARARs at Site 3 pickup areas, Site 6, or areas subject to utility easements. Transported waste will be completed in compliance with IDOT regulations The wetland area within Site 4/5 will be restored on-site.
Long-term effectiveness and permanence	Low residual risk after remedy completion with the exception of Site 6, pickup areas of Site 3, and utility easements of Sites 3 and 4/5. Long-term effectiveness is consistent with CERCLA landfill on the adjacent JM property; however, the CERCLA landfill area is fenced to restrict access and does not have utility easements. Requires long-term on-site maintenance of soil barrier and institutional controls to ensure that cover is maintained and ACM will not migrate to the surface.
Reduction of toxicity, mobility, or volume through treatment	No treatment is proposed
Short-term effectiveness	Minimal worker exposure risk
Implementability	
Technical feasibility	Engineered barrier for Site 3 is technically feasible Engineered barrier for Site 6 is technically feasible Raised mound for Site 4/5 engineered barrier requires stormwater drainage system for adjacent parking area
Administrative feasibility	Administratively feasible Coordination and access is required with property owners and City of Waukegan
Availability of services and materials	All services and materials are available
State and community acceptance	The state and community have not expressed concerns. Consistent approach with adjacent JM closed CERCLA landfill; however, the CERCLA landfill area is fenced to restrict access and does not have utility easements.
Cost	
Direct and indirect capital costs	\$1,702,000 to \$1,773,000
Long-term (30-year) O&M costs (NPV)	\$480,000

Notes

ARARs	Applicable or relevant and appropriate requirements
ACM	Asbestos-containing material
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
IDOT	Illinois Department of Transportation
JM	Johns Manville

NPV
O&M

Net present value
Operation and maintenance

Table 10
Comparative Evaluation of Alternatives
Southwestern Site Area
Waukegan, IL

Evaluation Criteria	Alternative 1 (Excavation)	Alternative 2 (Soil Barrier)	Alternative 3 (Hybrid Remedy)	Alternative 4 (Alternate Soil Barrier for Site 3)	Alternative 5 (Modified Alternative)
Effectiveness					
Overall protection of public health and the environment	Protective of human health and the environment	Except for Site 6 and the utility easement portions of Site 3 and 4/5, protective of human health and the environment with long-term maintenance	Except for the south side of Greenwood Ave at Site 6, Site 3 pickup areas, and the utility easement portions of the Sites, protective of human health and the environment with long-term maintenance	Except for Site 6, pickup areas of Site 3, and the utility easement portions of Site 3 and 4/5, protective of human health and the environment with long-term maintenance	Protective of human health and the environment with long-term maintenance of soil barrier. Protective of future workers by removal of ACM in utility corridors for Sites 3 and 6.
Compliance with ARARs, other criteria, advisories, and guidance	Compliant with ARARs	Not compliant with ARARs at Site 6 or Site areas subject to utility easements.	Not Compliant with ARARs at Site 3 pickup areas, Site 6 and areas subject to utility easements.	Not Compliant with ARARs at Site 6, Site 3 pickup area, or other areas subject to utility easements.	Compliant with ARARs
Long-term effectiveness and permanence	Lower residual risk compared to Alternatives 2, 3, 4, and 5 for Sites 3 and 4/5 Lower residual risk compared to Alternatives 2 and 3 for Site 6	Higher residual risk compared to Alternatives 1 and 5. Slightly lower residual risk compared to Alternative 3. Long-term engineered barrier maintenance requirement Institutional controls required to manage intrusive activities	Higher residual risk compared to Alternative 1, 2, and 5. Site 3 surface pickup remedy less permanent than Alternatives 1 and 2 Long-term engineered barrier maintenance requirement Institutional controls required to manage intrusive activities	Higher residual risk compared to Alternatives 1, 2, and 5 Slightly lower residual risk compared to Alternative 3. Long-term engineered barrier maintenance requirement Institutional controls required to manage intrusive activities	Slightly higher residual risk compared to Alternative 1 for Sites 3 and 4/5; however risks to future workers mitigated at Site 3 due to removal of ACM in utility corridor. Lower residual risk compared to Alternative 1 for Site 6 and Alternatives 2, 3, and 4. Includes filling wetland within Site 4/5 to mitigate potential risk to ACM present under water. Long-term engineered barrier maintenance requirement Institutional controls required to manage intrusive activities
Reduction of toxicity, mobility, or volume through treatment	No treatment is proposed (same as Alternatives 2, 3, 4 and 5)	No treatment is proposed (same as Alternative 1, 3, 4, and 5)	No treatment is proposed (same as Alternative 1, 2, 4, and 5)	No treatment is proposed (same as Alternative 1, 2, 3, and 4)	No treatment is proposed (same as Alternative 1, 2, 3, and 4)
Short-term effectiveness	Greater short-term exposure risk than Alternatives 2 or 3 for all sites and Alternative 5 for Sites 4/5 due to excavation and off-site transportation of waste soil. Estimated timeframe for construction is 2 to 4 months.	Low short-term exposure risk compared to Alternatives 1 or 3 for all sites and Alternative 5 for Sites 3 and 6 due to limited disturbance and handling of ACM. Estimated timeframe for construction is 1.5 - 2 months.	Lower short-term exposure risk than Alternative 1 for all sites and Alternative 5 for Sites 3 and 6. Higher short-term exposure risk than Alternative 2 for all Sites and Alternative 5 for Sites 4/5. Estimated timeframe for construction is 1.5 - 2 months	Low short-term exposure risk compared to Alternatives 1 or 3 for Site 3 due to limited disturbance and handling of ACM. Estimated timeframe for construction is 1.5 - 2 months.	Low short-term exposure risk compared to Alternatives 1 or 3 for Sites 4/5 due to limited disturbance and handling of ACM. Greater short-term exposure risk than Alternative 2 for Sites 3 and 6 due to excavation and off-site transportation of waste soil. Estimated timeframe for construction is 2 to 4 months.
Implementability					
Technical feasibility	100% ACM removal is technically feasible, but may be complicated due to the presence of subsurface utilities at the Sites.	Alternative 2 is technically feasible. Raised mound for Site 4/5 engineered barrier requires storm water drainage system	Alternative 3 is technically feasible	Alternative 4 is technically feasible	Alternative 5 is technically feasible but may be complicated at Sites 3 and 6 due to the presence of subsurface utilities. Filling of wetland at Sites 4/5 may be complicated.
Administrative feasibility	Administratively feasible Requires coordination with property owners and the City of Waukegan	Administratively feasible Requires coordination with property owners and the City of Waukegan Requires utility easement holders to be willing to implement the environmental covenants	Administratively feasible Requires coordination with property owners and the City of Waukegan Requires utility easement holders to be willing to implement the environmental covenants	Administratively feasible Requires coordination with property owners and the City of Waukegan Requires utility easement holders to be willing to implement the environmental covenants	Administratively feasible Requires coordination with property owners and the City of Waukegan Requires utility easement holders to be willing to implement the environmental covenants at Sites 4/5.
Availability of services and materials	All services and materials are available	All services and materials are available	All services and materials are available	All services and materials are available	All services and materials are available
State and community acceptance	Concerns anticipated regarding asbestos controls during construction activities lasting 2 to 4 months	Limited concerns anticipated with minimal disturbance of ACM. Possible concerns due to ACM exposure during utility maintenance.	Limited concerns anticipated regarding asbestos controls during construction activities lasting less than 1.5 months. Possible concerns due to ACM exposure during utility maintenance.	Limited concerns anticipated with minimal disturbance of ACM. Possible concerns due to ACM exposure during utility maintenance.	Concerns anticipated regarding asbestos controls during construction activities lasting 2 to 4 months
Cost					
NPV	\$7,822,000 to \$11,731,000	\$2,219,000 to \$2,303,000	\$2,434,000 to \$2,552,000	\$2,182,000 to \$2,253,000	\$5,899,000

Notes

ARARs Applicable or relevant and appropriate requirements

ACM Asbestos-containing material

NPV Net present value

Table 11
Summary Evaluation of Alternative 5 (Modified Alternative)
Southwestern Site Area
Waukegan, IL

Evaluation Criteria	Alternative Evaluation
Effectiveness	
Overall protection of public health and the environment	Protective of human health and the environment Very low likelihood of ACM waste disturbance following placement in off-site permitted landfill for Sites 3 and 6 Low likelihood of ACM waste disturbance with institutional controls and maintenance of soil barrier for Sites 3 and 4/5 Protective of future workers by removal of ACM in utility corridors for Sites 3 and 6
Compliance with ARARs, other criteria, advisories, and guidance	Excavation and Barrier remedy can be completed in compliance with ARARs Transportation and disposal can be completed in compliance with applicable regulations
Long-term effectiveness and permanence	Low residual risk after remedy completion Low exposure risk for asbestos places in licensed off-site landfill Long-term effectiveness or soil barriers is consistent with CERCLA landfill on the adjacent JM property Requires long-term on-site maintenance of soil barrier and institutional controls to ensure that cover is maintained and ACM will not migrate to the surface
Reduction of toxicity, mobility, or volume through treatment	No treatment is proposed
Short-term effectiveness	Short-term exposure risk during excavation, transportation, and disposal activities Relatively short travel distance to off-site landfill (covered/wrapped contents in rolloff box) Minimal worker exposure risk during soil barrier placement
Implementability	
Technical feasibility	Engineered barrier for all Sites is technically feasible. Excavation is technically feasible but may be complicated at Sites 3 and 6 due to the presence of subsurface utilities. Filling of wetland at Sites 4/5 may be complicated
Administrative feasibility	Administratively feasible Coordination and access is required with property owners and City of Waukegan
Availability of services and materials	All services, materials and trained workers are available in the area.
State and community acceptance	Will evaluate after public comment period. Acceptance is anticipated.
Cost	
Direct and indirect capital costs	\$5,533,000
Long-term (30-year) O&M costs (NPV)	\$366,000

Notes

ARARs	Applicable and relevant and appropriate requirements
ACM	Asbestos-containing material
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
JM	Johns Manville
NPV	Net present value
O&M	Operation and maintenance

Table M-22

Alternative 5: Modified Alternative - Utility Corridor Excavation and Engineered Barrier for Soil 3

Surface pickup ACM for disposal	20	cy
Site 3 Total Area	136,290	sf
ACM-impacted soils excavation in NE corner near test pits 45B, 46B, and 50B, estimated depth of 4 ft	904	cy
Soils excavation, Nicor Gas Transmission Line, Length = 540 ft, Width - 25 ft, Estimated Depth = 5 ft	2,500	cy
Soils excavation, NSGC 12" H.P. Gas Line, Length = 460 ft, Width - 25 ft, Estimated Depth = 5 ft	2,130	cy
Soils excavation, Municipal 6" Water Line, Length = 225 ft, Width - 25 ft, Estimated Depth = 5 ft	1,042	cy
Soils excavation, Underground Telephone Cable, Length = 1090 ft, Width - 25 ft, Estimated Depth = 3 ft	3,028	cy
Soils excavation, Electrical Power 12 kV Line, Length = 270 ft, Width - 25 ft, Estimated Depth = 3 ft	750	cy
Soils excavation Total	10,353	cy
Engineered Soil Barrier - Entire Site 3 Area	3.13	acres

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
Direct Costs					
Utility placement and/or management, incl. excavation					\$276,575.00
Municipal 6" Water Line	225	lf	\$150.00	\$33,750.00	
NSGC 12" H.P. Gas Line	460	lf	\$250.00	\$115,000.00	
Valve isolation and cutting	1	ea	\$12,000.00	\$12,000.00	
Gas line bend (includes labor)	1	ea	\$1,775.00	\$1,775.00	
Gas Transmission Line	540	lf	\$100.00	\$54,000.00	
Valve isolation and cutting	1	ea	\$3,500.00	\$3,500.00	
Underground Phone Cable	1,090	lf	\$20.00	\$21,800.00	
Disconnect/reconnect	1	ea	\$2,000.00	\$2,000.00	
Fiber Optic Cable	190	lf	\$25.00	\$4,750.00	
Mobilization/demobilization	1	ea	\$5,000.00	\$5,000.00	
Cable re-route	0	ea	\$150.00	\$0.00	
Permanent cable tie-in	1	ea	\$2,500.00	\$2,500.00	
Underground 12 kV Power Line (x2)	270	lf	\$50.00	\$13,500.00	
Service call	1	ea	\$2,000.00	\$2,000.00	
Disconnect/reconnect	1	ea	\$5,000.00	\$5,000.00	
Surface debris pickup	1	LS	\$5,000.00		\$5,000.00
Erosion and sediment control	1	LS	\$5,000.00		\$5,000.00
Site Preparation and Mowing	1	LS	\$50,000.00		\$50,000.00
Construction dewatering					\$68,500.00
Mobilization cost for construction dewatering	1	LS	\$50,000.00	\$50,000.00	
Construction dewatering	37,000	gal	\$0.50	\$18,500.00	
Construction survey	1	LS	\$10,000.00		\$10,000.00
Soil Excavation and offsite disposal (assume 200 cy/day per excavator)					\$823,754.00
Equipment mobilization/demobilization	2	ea	\$500.00	\$1,000.00	
Water truck for dust control	26	day	\$166.00	\$4,316.00	
Street sweeper	26	day	\$690.00	\$17,940.00	
Excavator w/ operator (2 units)	52	day	\$1,694.00	\$88,088.00	
Dozer w/operator	0	day	\$1,000.00	\$0.00	
Imported backfill (deliver, load, haul, and placement)	12,430	cy	\$15.00	\$186,450.00	
Truck loading scaffolding	1	LS	\$10,000.00	\$10,000.00	
Access paths for over the road trucks	1	LS	\$10,000.00	\$10,000.00	
Offsite disposal of ACM (load, T&D) (1.5 ton/cy)	15,530	ton	\$32.00	\$496,960.00	
Post-excavation samples for ACM (TEM, 2-day TAT)	100	ea	\$90.00	\$9,000.00	
Installation of Clay Cover (assume 400 cy/day)					\$286,148.60

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
Equipment mobilization/demobilization	6	ea	\$500.00	\$3,000.00	
Excavator w/ operator	23	day	\$1,694.00	\$38,962.00	
Front-end loader w/ operator	23	day	\$1,694.00	\$38,962.00	
Dozer w/operator	23	day	\$1,000.00	\$23,000.00	
Off-road truck w/operator (3 total)	0	day	\$2,200.00	\$0.00	
Compactor w/operator	2	day	\$650.00	\$1,300.00	
Geotextile (6 oz. polypropylene)	136,290	sf	\$0.26	\$35,435.40	
15" Clay cover soil (delivered, load, haul, placement) (20% expansion)	7,580	cy	\$15.00	\$113,700.00	
3" Top Soil cover soil (delivered, load, haul, placement) (20% expansion)	1,520	cy	\$15.00	\$22,800.00	
Crushed stone (delivered)	33	ton	\$22.00	\$726.00	
Seed and mulch	3.13	ac	\$2,640.00	\$8,263.20	
Asbestos supervisor (for duration of excavation work)	26	day	\$1,600.00		\$41,600.00
Perimeter air monitoring and H&S personnel	1	LS	\$10,000.00		\$10,000.00
Fencing (Site 3 perimeter)	3,360	LF	\$20.00		\$67,200.00
Signage (Site 3 perimeter)	1	LS	\$2,000.00		\$2,000.00
Construction management/oversight (10 hr/day)	490	hr	\$120.00		\$58,800.00
Site 3 Subtotal Direct Costs					\$1,704,577.60
Indirect Costs					
Engineering Plans and Specifications (8%)	1	ea	\$136,366		\$136,366.21
Permits and Regulatory Negotiation	1	LS	\$6,000.00		\$6,000.00
Completion Reports	1	LS	\$8,000.00		\$8,000.00
Project management (6%)					\$102,274.66
Subtotal Construction Cost					\$1,957,218.46
Contingency (10%)					\$195,721.85
Bonding (2%)					\$43,058.81
Total Estimated Construction Cost					\$2,195,999
O&M Costs for Engineered Barrier					
Quarterly inspection of cover areas	24	hr	\$94.00		\$2,256.00
Mowing of Site 3 (5 times per year)	5	ea	\$150.00		\$750.00
Mulch and re-seeding and cover repair	0.15	ac	\$5,500.00		\$825.00
Subtotal Construction Cost					\$3,831.00
Contingency (20%)					\$766.20
Project management and annual reporting	1	LS	\$10,000.00		\$10,000.00
Total Estimated Annual O&M Cost					\$14,597
Annual Cost escalation	0.0%				
Discount rate	7.0%				
No. of years of O&M	30				
Net Present Value O&M Cost					\$181,137

Table M-23

Alternative 5: Modified Alternative - Engineered Barrier for Sites 4/5 including Wetland

Engineered Soil Barrier - Site 4/5 Area	3.2 acres
Wetland Area Soil Barrier - Site 4/5 Wetlands	2.7 acres
Total Sites 4/5 Area	255,886 sf
Total Sites 4/5 Area	5.9 acres

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
Direct Costs					
Utility placement and/or management, incl. excavation					\$44,912.00
Transmission gas line	348	lf	\$100.00	\$34,800.00	
Valve isolation and cutting	1	ea	\$3,500.00	\$3,500.00	
Trench box	348	lf	\$7.00	\$2,436.00	
Trench de-watering pump	348	lf	\$12.00	\$4,176.00	
Surface debris pickup	1	LS	\$5,000.00		\$5,000.00
Erosion and sediment control	1	LS	\$8,000.00		\$8,000.00
Site Preparation and Mowing	1	LS	\$60,000.00		\$60,000.00
Site Grading - Dozer w/operator	2	day	\$1,000.00		\$2,000.00
Construction survey	1	LS	\$12,000.00		\$12,000.00
Installation of Cover Fill (assume 800 cy/day)					\$829,895.00
Equipment mobilization/demobilization	3	ea	\$500.00	\$1,500.00	
Excavator w/ operator	22	day	\$1,694.00	\$37,268.00	
Front-end loader w/ operator	0	day	\$1,694.00	\$0.00	
Dozer w/operator	22	day	\$1,000.00	\$22,000.00	
Off-road truck w/operator (3 total)	22	day	\$2,200.00	\$48,400.00	
Compactor w/operator	4	day	\$650.00	\$2,600.00	
Geotextile (6 oz. polypropylene)	255,900	sf	\$0.26	\$66,534.00	
15" Clay cover soil (delivered, load, haul, placement) (20% expansion)	14,220	cy	\$29.70	\$422,334.00	
3" Top Soil cover soil (delivered, load, haul, placement) (20% expansion)	2,850	cy	\$15.00	\$42,750.00	
Crushed stone (delivered, and placement)	2,500	ton	\$22.00	\$55,000.00	
Cut/fill drain west of parking area	1,500	cy	\$10.00	\$15,000.00	
pea gravel for curtain drain (import and place)	100	ton	\$20.00	\$2,000.00	
6" corrugated perforated drainage pipe (buy and install)	5,200	ft	\$10.00	\$52,000.00	
10" PVC solid pipe (buy and install)	600	ft	\$20.00	\$12,000.00	
Misc drainage system construction	1	LS	\$35,000.00	\$35,000.00	
Seed and mulch	5.9	ac	\$2,640.00	\$15,509.00	
Asbestos supervisor (for duration of excavation work)	26	day	\$1,600.00		\$41,600.00
Perimeter air monitoring and H&S personnel	1	LS	\$20,000.00		\$20,000.00
Chainlink fence and gate (on JM property line)	800	LF	\$17.00		\$13,600.00
Signage (Site 4/5 perimeter)	1	LS	\$2,000.00		\$2,000.00
Wetlands restoration (initial planting)	4.1	ac	\$9,890.00		\$40,549.00
Construction management/oversight (10 hr/day)	240	hr	\$120.00		\$28,800.00
Site 4/5 Subtotal Direct Costs					\$1,108,356.00
Indirect Costs					
Engineering Plans and Specifications (8%)	1	ea	\$88,669.00		\$88,669.00
Wetlands restoration and sediment control plan	1	LS	\$5,000.00		\$5,000.00
Permits and Regulatory Negotiation	1	LS	\$30,000.00		\$30,000.00
Completion Reports	1	LS	\$10,000.00		\$10,000.00
Project management (6%)	1	ea	\$66,502.00		\$66,502.00
Subtotal Construction Cost					\$1,308,527.00
Contingency (10%)					\$130,852.70
Bonding (2%)					\$28,787.59
Total Estimated Construction Cost					\$1,468,167

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
O&M Costs for Engineered Barrier					
Annual wetlands restoration monitoring (Year 1-3 only)	1	ac	\$2,990.00		\$4,186.00
Quarterly inspection of cover areas	24	hr	\$94.00		\$2,256.00
Mowing of Site 4/5 (2 times per year)	2	ea	\$500.00		\$1,000.00
Mulch and re-seeding and cover repair	0.15	ac	\$5,500.00		\$825.00
Subtotal Construction Cost					\$4,081.00
Contingency (20%)					\$816.20
Project management and annual reporting	1	LS	\$10,000.00		\$10,000.00
Total Estimated Annual O&M Cost					\$14,897
Annual Cost escalation	3.0%				
Discount rate	7.0%				
No. of years of O&M	30				
Net Present Value O&M Cost					\$184,860

Table M-24

Alternative 5: Modified Alternative - Excavation for Site 6

Area of S6-1N to S6-3N	2,332	sf
Area of S6-5N to S6-8N	3,062	sf
Area of S6-1S to S6-9S	9,225	sf
Area of S6-14N to S6-16N	3,209	sf
Area of S6-16N to S6-22N	9,628	sf
Area of S6-22N to S6-28N	10,229	sf
Area of S6-50N to S6-56N	9,397	sf
Paved area from 28N to 43N	20,255	sf
Total Site 6 Area	67,337	sf
Total Site 6 Area	1.5	ac
ACM-impacted soils excavation, Estimated Depth = 3 ft	7,482	cy

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
Direct Costs					
Utility placement and/or management, incl. excavation					\$644,750.00
Municipal Storm Water Line	17	lf	\$150.00	\$2,550.00	
Municipal 6" Water Line	1,940	lf	\$175.00	\$339,500.00	
Gas transmission line	1,355	lf	\$175.00	\$237,125.00	
Valve isolation and cutting	1	ea	\$15,000.00	\$15,000.00	
Underground phone cable	1,270	lf	\$10.00	\$12,700.00	
Disconnect/reconnect	1	ea	\$500.00	\$500.00	
Fiber Optic Cable	175	lf	\$25.00	\$4,375.00	
Mobilization/demobilization	1	ea	\$8,000.00	\$8,000.00	
Cable re-route	0	ea	\$150.00	\$0.00	
Permanent cable tie-in	1	ea	\$2,500.00	\$2,500.00	
Underground 12 kV Power Line (x2)	310	lf	\$50.00	\$15,500.00	
Service call	1	ea	\$2,000.00	\$2,000.00	
Disconnect/reconnect	1	ea	\$5,000.00	\$5,000.00	
Erosion and sediment control	1	LS	\$8,000.00		\$8,000.00
Site Preparation and Mowing	1	LS	\$50,000.00		\$50,000.00
Construction dewatering					\$0.00
Mobilization cost for construction dewatering	0	LS	\$50,000.00	\$0.00	
Construction dewatering	0	gal	\$0.50	\$0.00	
Construction survey	1	LS	\$8,000.00		\$8,000.00
Soil Excavation and offsite disposal (assume 200 cy/day per excavator)					\$614,611.70
Equipment mobilization/demobilization	1	ea	\$500.00	\$500.00	
Water truck for dust control	38	day	\$166.00	\$6,308.00	
Street sweeper	38	day	\$690.00	\$26,220.00	
Excavator w/ operator	38	day	\$1,694.00	\$64,372.00	
Dozer w/operator	0	day	\$1,000.00	\$0.00	
Off-road truck w/operator (1 total)	0	day	\$735.00	\$0.00	
Imported backfill (delivered, load, haul, placement) (20% expansion)	9,000	cy	\$15.00	\$135,000.00	
Truck loading scaffolding	1	LS	\$10,000.00	\$10,000.00	
Access paths for over the road trucks	0	LS	\$10,000.00	\$0.00	
Offsite disposal of ACM (load, T&D) (1.5 ton/cy)	11,223	ton	\$32.00	\$359,130.67	
Post-excavation samples for ACM (TEM, 2-day TAT)	100	ea	\$90.00	\$9,000.00	
Seed and mulch	1.5	ac	\$2,640.00	\$4,081.03	
Asbestos supervisor (for duration of excavation work)	38	day	\$1,600.00		\$60,800.00
Perimeter air monitoring and H&S personnel	1	LS	\$15,000.00		\$15,000.00

Equipment Basis	Amount	Unit	Unit Cost	Subtotal	Total
Chainlink fence and gate	0	LF	\$17.00		\$0.00
Signage (Utility Crossings and Greenwood Ave)	1	LS	\$2,000.00		\$2,000.00
Construction management/oversight (10 hr/day)	380	hr	\$120.00		\$45,600.00
Site 6 Subtotal Direct Costs					\$1,448,761.70
Indirect Costs					
Engineering Plans and Specifications (8%)	1	ea	\$115,901		\$115,900.94
Permits and Regulatory Negotiation	1	LS	\$6,000.00		\$6,000.00
Completion Reports	1	LS	\$8,000.00		\$8,000.00
Project management (6%)					\$86,925.70
Subtotal Construction Cost					\$1,665,588.33
Contingency (10%)					\$166,558.83
Bonding (2%)					\$36,642.94
Total Estimated Construction Cost					\$1,868,790